INTERIOR DEPARTMENT APPROPRIATIONS FOR 1952

TUESDAY, MAY 22, 1951

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D. C.

The subcommittee met at 2 p. m., pursuant to call, in room F–39, the Capitol, Hon. Carl Hayden, chairman of the subcommittee, presiding.

Present: Senators Hayden, Chavez, Robertson, Ellender, and Wherry.

BUREAU OF RECLAMATION

CONSTRUCTION AND REHABILITATION, RIO GRANDE PROJECT

STATEMENT BY HON. DENNIS CHAVEZ, A UNITED STATES SENATOR FROM THE STATE OF NEW MEXICO

CONSTRUCTION OF TRANSMISSION LINES IN NORTHERN NEW MEXICO AND SOUTHERN COLORADO

Senator HAYDEN. The committee will be in order. Senator Chavez has a matter he desires to bring to the attention of the subcommittee.

Senator CHAVEZ. I want to make a short statement, Mr. Chairman, before you proceed so that you and Senator Wherry and the committee can be oriented.

This point here is the location of the Rio Grande irrigation district. Elephant Butte Dam is right there. The black lines indicate how far power is taken from that project up north and to some other areas in central New Mexico.

Some 6 or 7 months ago the people of southern Colorado, in the San Luis Valley down around Monte Vista, and in northern New Mexico and western New Mexico commenced to worry about power. They came to Washington and had a conference with the REA people and the Bureau of Reclamation.

The question was one of firming the power. About the only way they could do that, as I understand it, would be for the REA to do something at Espanola about building a power plant. But they cannot do that until the Reclamation Bureau gets some money for the building of transmission lines. It is those transmission lines that we want to talk about to the committee this afternoon and as to which we intend to make our showing.

AMOUNT REQUESTED

We are asking for 1952 the amount of $1,750,000. We are asking that the Reclamation Bureau spend the money like they do on other Reclamation funds, not to give it or grant it to the people at all, but to have it amortized by the power people as they go along.

In other words, if this is done, they can get rentals and pay the Reclamation Bureau on the average of $250,000 per year. So it is not a grant that we are asking for. We are just asking that they allow us, on account not only of national security, but also the needs for power in that area at this moment, that Congress allow the Reclamation Bureau to get a little money. If my understanding is correct, if the Bureau gets that money, the REA will come into the picture and build a power plant that will firm the power all over. That is the story.

ELEPHANT BUTTE DAM POWER

Senator HAYDEN. The power at Elephant Butte Dam is not firm power?

Senator CHAVEZ. It only reaches now down to Albuquerque.

Senator HAYDEN. I am talking about the original power generated at Elephant Butte. That power varies?

Senator CHAVEZ. It is not firm power, especially with the demands that are coming on now. The demands are tremendous, and it is not firm power.

Senator HAYDEN. It is a reservoir, and the reservoir is low part of the time and full part of the time. When you have a full head, you have more power than at other times.

Senator CHAVEZ. The philosophy of this is to provide adequate firm power in southern Colorado and in this area of New Mexico. This is, as you will notice, around the Las Vegas area, and this goes down to your country, over to the Bluewater country. That is what we are trying to do. They have discovered uranium around Grants and Bluewater, but they need the power. They have not got it. They have not got it even at Elephant Butte Dam.

I would like the Reclamation Bureau representatives and the REA officials to tell you about the understanding and what can be done if it is feasible and possible.

Senator CHAVEZ. Who can testify for the Reclamation Bureau? Mr. McPhail.

Senator WHERRY. May I ask a question before Mr. McPhail starts?

Senator HAYDEN. Yes.

PRIVATE POWER IN AREA

Senator WHERRY. Is there any private power in that territory now?

Senator CHAVEZ. Practically all of it is private except the power that comes from Elephant Butte Dam, and that is sold to private enterprise.

Senator WHERRY. Why do you need the transmission line?

Senator CHAVEZ. Because there are no transmission lines up north.

Senator WHERRY. You need this transmission line to make your connections?

Senator CHAVEZ. To make the connections and firm that power.

Senator WHERRY. There are no private lines in there?

Senator CHAVEZ. There are private lines, but they are not sufficient or adequate for the purposes and the demands at the moment.

Senator WHERRY. I understood you to say that if the money were appropriated it would be spent according to our power program. Does that mean that private enterprise would be offered an opportunity to build the transmission line?

Senator CHAVEZ. Yes. These people all represent private enterprise, small power companies.

Senator WHERRY. I mean the transmission line.

Senator CHAVEZ. Yes.

Senator WHERRY. If it can be built on contract with Southwest Power, it would be built that way?

Senator CHAVEZ. I don't know whether it would be under the same conditions.

Senator WHERRY. I mean the principles?

Senator CHAVEZ. The principles are the same. The money would be advanced by the Reclamation Bureau to build the transmission lines. Then the individual power companies will have power to sell and to rent, and out of that rental they would pay back on the average $250,000 a year to the Reclamation Bureau.

Senator WHERRY. I understand that, Mr. Chairman, but what I meant was that the transmission line that will have to be built by the Government is the backbone transmission line?

Senator CHAVEZ. The line will be built by the Government to the extent that the Government will advance the money. The Reclamation Bureau will build the line.

STATEMENT OF HON. JOHN J. DEMPSEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW MEXICO

PUBLIC AND PRIVATE INTEREST COOPERATING

Representative DEMPSEY. I am always glad to be recognized by Senator Wherry.

The public utility at Albuquerque, which is the largest we have in the State, has wired me and telephoned me to try to get this project through for them because they cannot do the work.

Senator WHERRY. I understand that.

Representative DEMPSEY. These companies out there are working in cooperation with the cooperatives.

Senator WHERRY. You still don't understand my question. All I want to know is this: We are going to advance the money to the Reclamation Bureau, and then the Reclamation Bureau is to attempt, through private enterprise, along the lines of Southwest Power, to make this connection. Is that the case or are we going to lease this line to some utility or are we going to operate it ourselves? I am speaking now only of the connecting backbone transmission line. I understand how it goes from there on out.

STATEMENT OF H. F. McPHAIL, DIRECTOR, BRANCH OF POWER UTILIZATION, BUREAU OF RECLAMATION

PLAN OF BUREAU OF RECLAMATION

Mr. McPHAIL. Senator Wherry, I can answer that. The Bureau proposes to construct and operate these transmission lines itself. The lines in general will go where no present lines exist. There are some lines in the territory, but not in the locations that are proposed in this set-up.

BACKBONE TRANSMISSION LINE

These lines will serve to connect together the various REA projects in the central and northern part of New Mexico. They will also connect with the lines of the private utilities. The power made available by the 45,000-kilowatt plant proposed to be constructed by the REA projects will serve to supplement the power resources of everybody in the area, both the Bureau of Reclamation on the Rio Grande project where such support is desperately needed and the private utility at Albuquerque, Las Vegas, and Santa Fe. This company is also anxious to get supplemental power and has strongly indicated to me, and as I understand to many others, that it desires this project to be moved forward if possible and as fast as possible.

Senator HAYDEN. What Senator Wherry and I are interested in is this: Is this anything more than what we call the ordinary backbone transmission line by the Reclamation Bureau?

Mr. McPHAIL. It is not. It is a backbone transmission line, very much in the category of the lines which were authorized by this committee for North Dakota and South Dakota.

Senator HAYDEN. That is what I thought. You have more of the situation here that compares with the Dakota situation than anything else. There the Government generates power at great dams, and the Reclamation Bureau builds the backbone transmission lines. Then the REA steps in and sees to it that it is properly distributed. Now, you are following that same system; is that it?

Mr. McPHAIL. That is correct, sir.

Senator HAYDEN. Theoretically that is about it?

Mr. McPHAIL. Yes, sir.

Senator HAYDEN. All right, now go on and tell us about it.

PROPOSED CONSTRUCTION OF STEAM PLANT, ESPANOLA, N. MEX.

Mr. McPHAIL. A number of REA cooperatives in northern New Mexico and southern Colorado are proposing to install a 45,000-kilowatt steam plant in the vicinity of Espanola, N. Mex., for the generation of electric power to serve cooperative loads in the west central, north central, and northeastern sections of New Mexico and the south central section of Colorado.

Senator HAYDEN. Is there a coal mine up there where they can get fuel?

Mr. McPHAIL. I understand that they propose to use gas for fuel for this plant with a supplemental supply from oil in emergency. There are gas fields fairly close to the site at Farmington, New Mexico.

Senator HAYDEN. I believe that is the New Mexico pool.

Senator WHERRY. Will you point out on the map the place where the steam plant is to be located?

STATEMENT OF WESLEY R. NELSON, ASSISTANT COMMISSIONER, BUREAU OF RECLAMATION

Mr. NELSON. It is at Espanola.

Senator WHERRY. Where is the dam? Where do you get the water power now?

Mr. NELSON. Here [indicating on map] is Elephant Butte Dam on the Rio Grande. The transmission line system is now being built to Albuquerque by the Bureau of Reclamation.

Senator WHERRY. How far is it up from there to Albuquerque?

Senator CHAVEZ. It is about 165 miles.

Senator WHERRY. Is it about where your pointer is directed on the map?

Mr. NELSON. This is Albuquerque.

Senator WHERRY. That is the distance this line would run?

Mr. NELSON. The length of the proposed lines, I think, is about 350 miles for the units shown on this map.

Senator WHERRY. Then this line would do more than connect up that dam and your power site? It would connect up other lines?

EXTENSION OF POWER LINES

Mr. NELSON. No, sir. The power plant would be located at Espanola. There would be a connection to Albuquerque and then another line running about 75 miles out here to Grants. Then from Espanola there would be a line to the east as far as Springer and north into Trinidad. Also from Espanola, there would be a line to Taos, and then north into Colorado to Monte Vista.

Senator WHERRY. Is this to hook up into any other lines that are in there?

Mr. NELSON. No, sir. There are no other reclamation lines in this particular vicinity with the exception of a line from Gunnison across to Salida, which is not shown on this map. It is at about this location here. That will be provided with power from the Colorado-Big Thompson project.

LENGTH OF PROPOSED LINES

Senator WHERRY. How many miles will the proposed line consist of when you get it built?

Mr. MCPHAIL. Three hundred and sixty-two.

Senator WHERRY. What is the total estimated cost of the project?

ESTIMATED COST OF PROJECT

Mr. MCPHAIL. The total project's estimated cost is $7,501,000.

Senator WHERRY. Of which you are asking $1,750,000 next year?

Mr. MCPHAIL. We are asking for $1,825,200 for this coming year.

Senator WHERRY. Are there any defense projects in this area that need the power?

Mr. MCPHAIL. There are a number.

Senator WHERRY. Are you going to come to that in your statement?
Mr. MCPHAIL. Yes, I will come to that.

LINES PROPOSED

I would like to point out in connection with Mr. Nelson's description of the lines that the lines indicated in red on the map running from Grants through Albuquerque to Espanola, and then with a branch to Monte Vista, and with one branch to Springer, are the lines proposed here. The dotted lines are lines which the REA projects either have or propose to construct themselves.

Senator WHERRY. Are you going to ask for an appropriation for that, or have you already gotten the money?

STATEMENT OF CLAUDE R. WICKARD, ADMINISTRATOR, RURAL ELECTRIFICATION ADMINISTRATION

REA FUNDS AVAILABLE FOR STEAM PLANT

Mr. WICKARD. We have sufficient funds.

Senator WHERRY. For a steam plant? You want a steam plant, too?

Mr. WICKARD. Yes.

Mr. MCPHAIL. The cooperatives propose to complete this plant in 1953 in order that power will be available in order to supply their immediate needs until such time as power will be available from Bureau hydroelectric plants in northern New Mexico and southern Colorado. It is necessary to construct transmission lines from the cooperatives' plant to the load centers. The Bureau of Reclamation has a number of transmission facilities planned for construction in connection with future hydroelectric plants in the area which could be used at an earlier date by these cooperatives to transmit power from the proposed steam plant to the cooperatives' load centers.

Should the cooperatives undertake a construction program for transmission lines and substations to meet their own requirements, these facilities would later have to be duplicated by the Bureau or additional capacity, above the immediate needs of the cooperatives, built into their system to provide for the capacity for delivering power from future hydroelectric plants. A coordinated plan has been worked out whereby the advanced construction of certain components of the Bureau's future transmission grid in the area can be utilized to meet the cooperatives' needs in the most economical manner at the earliest possible date.

Under the proposed plan of advanced construction, these lines can be made available at the time of the completion of the steam plant at Espanola in 1953, providing funds in the amount of $1,825,200 are made available for initiating construction during the fiscal year 1952.

ESTIMATED COST FOR TRANSMISSION LINES AND SUBSTATIONS

It is estimated that the total cost of the transmission facilities for immediate construction will be $7,501,000, of which $5,127,000 is required for transmission lines and $2,374,000 is required for substations. The proposed construction includes 362 miles of 115-kilo-

volt transmission lines and associated substations to serve the cooperatives. Facilities are also provided to connect the Espanola steam plant with the Bureau's Rio Grande project power system at Albuquerque, N. Mex., which will permit utilization of surplus capacity in the Espanola plant for firming the Rio Grande project power system and for supply indirectly the urgent and growing needs of defense and other needs now served by the Rio Grande project.

Senator CHAVEZ. Will you point out, Mr. Nelson, where Los Alamos is located and the atomic energy activity? Will you also point out Albuquerque and the location of Sandia base? Those are two large activities.

SOURCE OF POWER FOR LOS ALAMOS, N. MEX.

Senator WHERRY. Where do they get their power now?

Mr. MCPHAIL. They generate the majority of it themselves for Los Alamos. They also have an interconnection with the New Mexico Public Service Co. The New Mexico Public Service Co. also serves Sandia base.

Senator CHAVEZ. That is a big plant at Albuquerque which is privately operated.

Senator WHERRY. Will they be part of the distributive system if this backbone system is built?

Mr. MCPHAIL. It will connect directly with the present system of the New Mexico Public Service Co. and provide a back-up source of power for these defense installations as well as supplementing the supply of power of the New Mexico Public Service Co.

Mr. NELSON. I might interject at that point and mention that in the Rio Grande area, extending all the way down to El Paso and all the way up to Albuquerque, the utilities and the Reclamation Bureau have been working very closely. There are a number of contracts which tie in the operations of the Government's plants and the private utility plants. This arrangement has been working to everybody's satisfaction.

Senator HAYDEN. Will you proceed.

LOWEST RUNOFF ON RECORD IN RIO GRANDE RIVER

Mr. MCPHAIL. I might say that within that area we have an extremely serious situation this year. We have the lowest runoff in the Rio Grande River shown on the records as long as we have been keeping records. The situation is so serious that it is anticipated that by the 1st of July we will probably have to shut down the Elephant Butte plant because of the exhaustion of water.

Senator WHERRY. What is the reason for that?

Mr. MCPHAIL. No moisture.

Senator WHERRY. It is an unusual situation?

Mr. MCPHAIL. Most unusual and not shown by any previous records. The only way that we are able to keep a reasonable power supply for the area is by means of the arrangements which the Bureau of Reclamation has made with all of the agencies in the area that have generating facilities. We are proposing to assist in this situation by transmitting power from El Paso, Tex., up into the Albuquerque and Santa Fe area over the lines that will be completed this year. That is the only thing that will get them by this year.

Senator HAYDEN. By power agencies, you mean private utilities in the area mostly?

Mr. MCPHAIL. Yes, sir; all private utilities in the area. We serve a good many.

Senator HAYDEN. The El Paso power will be generated by private utilities?

Mr. MCPHAIL. That is right, sir.

The Plains Electric Generating Cooperative, which is the name the association of REA's goes under, will cover all of the out-of-pocket charges, as well as pay interest and amortization on that portion of the Bureau facilities used by it until the advance transmission facilities are connected for Bureau use to other Bureau hydro developments in the area.

Senator WHERRY. Will you just explain that to me, please.

Mr. MCPHAIL. Well, we have a certain amount of out-of-pocket expenses each year to operate and maintain transmission lines or any other electrical facility. The REA's will pay all of those costs. In addition, they will pay an amount to take care of the proper replacement reserve to replace anything that may go out on the transmission lines and also a proper amount against the amortization with interest on those lines.

Senator WHERRY. Because they are the agencies that use the energy from the transmission, I mean over their transmission line?

Mr. MCPHAIL. That is correct, sir.

Senator WHERRY. That is, they are the ones who will actually assume the payment then?

Mr. MCPHAIL. They will assume the payment until such time as the Bureau has additional developments of its own.

Senator WHERRY. Then what happens?

Mr. MCPHAIL. Then we will have to develop some other proper arrangement whereby they will carry their proper costs and the Bureau will carry its proper costs. At that time the Bureau should pay for the use it makes of the lines and not leave the entire burden of costs on the REA's.

Senator WHERRY. You have two agencies doing business with each other and prorating costs, so that whatever use they get they will pay for. Then as you need the whole transmission line, if you do some time, you will pay that out?

Mr. MCPHAIL. That is right, sir.

Senator WHERRY. But how will it be paid out then? I don't quite understand that. If you take it over, it isn't paid unless somebody pays it out who gets the use of it.

Mr. MCPHAIL. If we take it over, it will be because we have put additional hydro development into the area, and we will use these facilities to take that power to market.

We think this is a most worth-while project, and, as we view it, it is the most reasonable way of taking care of a very difficult situation.

Senator WHERRY. How can the REA ever be through with that? They will always want to use it as a transmission line.

Mr. MCPHAIL. It will become a matter of economics in the future whether it is cheaper for them to buy power that is produced by hydroelectric plants and keep their steam plant only for stand-by purposes, or purchase additional requirements over and above what their own plant can produce.

Now, this plant that they are proposing to build, according to estimates, will have sufficient capacity to supply the requirements until only some time past about 1955. Then it will become insufficient, and other sources must be added.

Senator WHERRY. I understand that, but even as other sources are added you will always want a transmission line; will you not? Will you or will you not?

Mr. WICKARD. Yes, sir.

Senator WHERRY. I can understand that. Now, if they want it, then I can see how they will use it and eventually they will amortize it and pay it out. Is that not right?

Mr. WICKARD. Together with other consumers such as power companies and everybody that contributes toward amortization.

Mr. MCPHAIL. Right now it is primarily for the REA, although it will be of great general benefit to this extremely power-scarce area.

Senator CHAVEZ. It will help the area and the Bureau as much as anybody. It just happens that the REA is the agency that has done work there.

Senator HAYDEN. The way I understand it is that you have in existence now a power development at Elephant Butte Dam. Sometime in the future you have other projects along the San Juan River and elsewhere, and if they are developed power will be produced there. Am I correct in that?

Mr. MCPHAIL. That is correct.

Senator HAYDEN. There are two or three of those in that area that are prospective developments.

Senator CHAVEZ. There are also Gunnison and Wagon Wheel Gap in the San Luis Valley.

As those reclamation developments take place sometime in the future, when they do take place, and there is power generated, all that will come into an integrated system and this transmission line will be useful for that?

Mr. MCPHAIL. That is correct, Mr. Chairman.

Senator HAYDEN. In that event the temporary need is to take care of an immediate situation, but the ultimate need will still be there.

Well now, if you are going to use a line in connection with other developments in the future and its full capacity was not required by the REA, anybody else who got in on it would have to pay their share?

QUESTION OF CONSTRUCTION OF LINE BY REA

Senator WHERRY. Why cannot the REA build a line? That is what I am trying to find out. I guess that is the way to ask the question to find out.

Mr. WICKARD. Do you want me to answer the question?

Senator WHERRY. I would like to have somebody answer it.

Senator CHAVEZ. Go ahead, Mr. Wickard.

Mr. WICKARD. The REA cannot build a line to serve non-REA consumers. As I understand it, this line will have more capacity than will be needed to serve REA consumers. For instance, the New Mexico Public Service Co. at Albuquerque will probably use this line and some of the power will be transmitted to them. The REA could not finance that, but the Reclamation Bureau can. Therefore, we will pay off a portion of the power for the use of the line along with other

people who use the line. It will be much cheaper and much more economical to build lines to serve everybody than just to serve the half a dozen REA cooperatives.

Senator WHERRY. I understand that, but why can you not build the line and charge those who get it in addition to those who use it?

Mr. WICKARD. Because the law does not permit that.

Senator WHERRY. And that is why you have to have the Bureau of Reclamation build the line?

Mr. WICKARD. Yes, sir.

Senator HAYDEN. They have authority to build the line.

Senator WHERRY. I just got through asking you that question, and I thought you said they could. I asked you whether the law prohibited them from building the line.

Senator HAYDEN. No; they cannot build the line.

Senator WHERRY. Why did you not answer me? That is exactly what I asked you.

Senator HAYDEN. Are you through, Mr. McPhail?

Mr. MCPHAIL. Yes, sir. That covers my statement unless you have some questions.

Senator CHAVEZ. You say that due to the drastic situation of the drought now this project is imperative at this time?

Mr. MCPHAIL. Yes, sir. It is most important to the Bureau as well as to others.

Senator CHAVEZ. Besides that it will come into the picture from a national defense standpoint because all of the utilities are at the lower end of the river and it will serve the necessities or needs at Sandia base and also Los Alamos, whatever agency of the Government that might be involved, besides serving private enterprise throughout the entire area, which needs it badly now. Am I correct in that?

Mr. MCPHAIL. That is correct, sir.

SUBMISSION OF PROPOSAL TO PRESIDENT AND BUDGET BUREAU

Senator WHERRY. Has this been submitted to the President?

Senator HAYDEN. That was the next question I was going to ask.

Senator WHERRY. And the Bureau of the Budget, and has it been before the House?

Mr. MCPHAIL. No, sir; it has not. This is an arrangement that has only recently been consummated between the REA's concerned and the Bureau and subsequent to the House hearings on this matter. It has not been submitted to the Bureau of the Budget. It is resting now in the Department ready to be sent over to the Bureau of the Budget. You do not have an estimate before you.

Senator HAYDEN. Why can you not put your submission to the Bureau in the record now and then if the Bureau approves it before we get through with this bill, why, we will have it in the record. Can you not do that?

Mr. MCPHAIL. Yes, sir; we can.

Senator HAYDEN. Well, do that, please.

(The information requested is as follows:)

Rio Grande project, power division, New Mexico-Texas

Total estimated cost		$22,509,224
Total to June 30, 1950		12,661,060
Allotment, fiscal year 1951	[1] $1,049,000	
Unobligated balance June 30, 1950	10,056	
Obligation program, fiscal year 1951		1,059,056
Original estimate of allotment, fiscal year 1952	1,288,000	
Amendatory estimate of allotment, fiscal year 1952	1,825,200	
Obligation program, fiscal year 1952		3,113,200
Additional estimated cost after fiscal year 1952		5,675,908

[1] Included $8,000 general investigation funds.

Authorization.—The features for which this amendment is requested constitute an extension to the Rio Grande project, New Mexico-Texas. Construction of the Rio Grande project was authorized under act of Congress of February 25, 1905 (33 Stat. 814), as supplemented by the special provisions of the Appropriation Act of fiscal year 1938, being the act of August 9, 1937 (50 Stat. 564, 592).

Location.—The transmission facilities to be constructed hereunder will be in northern New Mexico and south central Colorado to serve Rural Electrification Administration distribution cooperatives and other customers in the area.

Description.—The program of advance transmission construction will consist of 362 miles of 115-kilovolt transmission lines and associated step-down substations totaling 65,250 kilovolt-amperes serving principally Rural Electrification Administration distribution cooperatives in north central New Mexico and south central Colorado. The transmission facilities will be connected to the proposed Plains Electric Generating Cooperative's REA-financed steam-electric generating plant near Espanola, N. Mex. The Plains Electric Generating Cooperative, Inc., was organized by the distribution cooperatives in the area to aid the member cooperatives in meeting their urgent needs for additional power. Operating headquarters of the Bureau of Reclamation for the advance constructed facilities is proposed to be located at Albuquerque, N. Mex., with branch facilities at Taos for maintenance personnel.

Repayment.—The investment in the transmission facilities proposed under this plan is included with the investment of the Rio Grande project. During the period when the advance transmission facilities are being used for the benefit of the distribution cooperatives before the transmission facilities are connected for Bureau use to other Bureau developments in the area, all out-of-pocket annual charges on the transmission facilities will be paid to the Bureau in the form of a rental charge by the Plains Electric Generating Cooperative, including all operation and maintenance costs plus reserve for replacement, and amortization on that portion of the facilities which are used by the cooperatives prior to their use by the Bureau.

Status.—To date there has been only such reconnaissance field work performed as was found necessary to prepare preliminary cost estimates and location maps.

Work proposed fiscal year 1952.—The program for fiscal year 1952 anticipates initiation of field surveys for transmission lines and substations, preparation of designs and specifications, purchase of equipment, and initiation of construction.

Work proposed future years.—The program anticipates that construction of the transmission facilities will be completed in fiscal year 1953 concurrently with completion of the REA Espanola steam plant, and that delivery of power will be initiated over the Bureaus' transmission facilities in fiscal year 1954.

JUSTIFICATION

The power shortage to the REA distribution cooperatives in this area is real and immediate. Shortage of electric power is largely responsible for the underdevelopment of this area, particularly with regard to irrigated farming. In addition to the cost of wholesale energy being high, the record of availability of wholesale power to the distribution cooperatives has been very unsatisfactory. The cooperatives are obtaining power either from high-cost Diesel-electric generating plants owned by the individual distribution cooperatives or from private power companies at an excessively high rate. The proposed construction of a

steam-electric generating plant at Espanola, N. Mex., by the Plains Generating Cooperative, Inc., is contingent upon the advance construction of certain lines and substations by the Bureau of Reclamation. By construction of the steam plant by the cooperative and the advance construction of Bureau transmission facilities required later in connection with Government hydro-power developments, construction of transmission facilities by the generating cooperative which would duplicate future Bureau lines is hereby eliminated. This same procedure of advance construction by the Bureau has been approved for use in North and South Dakota where completion of Government hydroelectric generating plants is several years distance and there is an immediate need for additional power for REA cooperatives. Since it is the ultimate plan of the Bureau to interconnect the existing and proposed hydroelectric developments in New Mexico and contiguous areas, it is evident that the Bureau will have need for a transmission grid in northern New Mexico and southern Colorado. The facilities selected for advance construction are required by 1954 to distribute power from the Espanola plant to the Rural Electrification Administration distribution cooperatives in northern New Mexico and southern Colorado.

The proposed interconnected power system, including the Plains Electric Generating Cooperative, Inc. (Espanola steam-electric plant), the Frontier Power System, Bureau of Reclamation, Public Service Co. of New Mexico (Albuquerque), Community Public Service Co., and the El Paso Electric Co. will serve the following defense installations:

1. Atomic Energy Commission, Los Alamos
2. Sandia Special Weapons Base (AEC)
3. Kirtland Air Field
4. White Sands Proving Grounds
5. Holloman Air Force Base
6. Fort Bliss and Biggs Air Force Base

The present national emergency has increased the importance and need for additional power facilities for the entire area to insure a firm power supply for all of these defense installations. Power requirements for the defense installations involved must be assured and must be of sufficient quantity to meet needs if this portion of the national defense program is not to be jeopardized. The plan of the Plains Electric Generating Cooperative will meet such needs and will supplement the power sources now in the area.

In addition to the requirements of direct defense installations set out above, there are also domestic and commercial power requirements associated with increased civilian activity in communities and towns adjacent to the defense installations among which are the following:

1. Mica mines, near Moro, N. Mex.
2. Pearlite development, near Socorro, N. Mex.
3. Uranium deposits, near Grants, N. Mex.

Senator WHERRY. Have you submitted this to the Bureau or made a recommendation?

Mr. MCPHAIL. No, sir; it is still in the Department of the Interior.

Senator WHERRY. I certainly think it ought to go there, Dennis.

Senator CHAVEZ. These gentlemen who are here are private citizens, some of whom are connected with REA's and some connected with private enterprise.

Senator WHERRY. You mean Ellis out there is connected with the REA's.

Senator CHAVEZ. We had to make this showing because this bill is being considered at the moment.

Now, Mr. Wickard, would you care to comment?

Mr. WICKARD. Senator Chavez, I don't have a prepared statement. The one thing I would like to emphasize is that the seven cooperatives in this area all have a most difficult problem—one that has been solved in some manner. The way they have been solving it is on a piecemeal basis by putting in very small Diesel plants for the most part. We would like to see this project taken care of immediately to help us

keep down the costs and solve the power problem in what we think is the most economical manner.

I think all of these people—a lot of them at least—can testify to the problems they have at the present time in obtaining sufficient capacity to serve their rapidly growing needs, not only defense needs, but there are mining industries there today that are not putting out as much of their product as they would like to because of the shortage of power.

Senator CHAVEZ. Now, from your knowledge of the conditions, as Administrator of the REA, would you say that it is imperative that action be taken?

Mr. WICKARD. Something has to be done. This offers the most economical approach to it from the standpoint of everybody in the area, including the power companies, the cooperatives, and everyone else.

Senator WHERRY. What is the emergency that has arisen between the time you should have offered this to the House and your offering of it now to the Senate?

Mr. WICKARD. I think perhaps an additional defense load may have come in.

Senator WHERRY. You have been talking about connecting up the small cooperatives that have been running by Diesel power. That has happened in the last few years?

Mr. WICKARD. That is right. It has gone along because no one has made a suggestion such as has been made here. I don't know who made the original suggestion. I didn't make it. But this does seem to be the most practical way of solving their needs.

Senator WHERRY. That is a very good statement and a very good observation, but what I was trying to get for the record is this: You say that there is an immediate and an imperative need now. I understand that their water is low in the dam and that that is an unusual situation. But then you attempted to justify the building of these transmission lines to connect up these little plants that are operated by Diesel engines. I wondered what has happened in that situation that justifies bringing this up to the Senate at a time when you could have offered it to the House. What developed?

Mr. WICKARD. I would not say that there has been any one particular thing except that there have been a number of things that have been developing all along. Now apparently the REA's, the power companies, and the Bureau of Reclamation have gotten together on a plan. Our part is to finance the steam plant, and from the standpoint of the REA funds that will be the most economical way of taking care of the growing needs.

Senator CHAVEZ. May I make this statement, Senator Wherry? This has been going on for about 5 months. We all agree on the matter. We knew something had to be done. I gathered Mr. Wickard, the Reclamation Bureau agents, and the congressional delegation together to discuss it with Mr. Davis and the New Mexico people here. But there are so many things that had to be done before it could possibly be presented to a committee of Congress that we have not had time to actually present it right and the way it should be.

Now, Mr. Davis do you want to make a short statement?

STATEMENT OF NORTON DAVIS, SECRETARY-TREASURER, PLAINS ELECTRIC GENERATING COOPERATIVE

URGENCY OF SITUATION

Mr. DAVIS. Yes, Senator.

Senator CHAVEZ. For the record will you state your name and title.

Mr. DAVIS. I am Norton Davis, manager of the Springer Electric Cooperative, and I am also secretary-treasurer of the Plains Electric Generating Cooperative. There are seven cooperatives that are in the north and five in the south, which I will refer to.

I would like first to explain this emergency proposition as we see it. As Senator Chavez has pointed out, we have had a lot of things to get out of the way first. We wanted to get this before the House. We had to accomplish this gas contract with the gas people to make sure that we had adequate gas fuel at an economical cost.

Senator WHERRY. Is that natural gas?

Mr. DAVIS. Yes, sir. That has been accomplished on this gas deal here. Then the other situation was to see that the Bureau of Reclamation was agreeable to our project in that area and to see that the REA would go along with such an idea. That has taken time. We have worked week after week consistently on that basis.

That is the reason we would appreciate your consideration because we are behind it and it is an emergency.

All of these locations in here—we will start with Taos and Espanola and the Arriba Cooperative and the Grants Cooperative and the Springer Cooperative—all have their own generating units. They are small, and they have been added to in order to give more capacity. If we go along and on an individual basis and add to these plants, it will mean an extra expenditure in the neighborhood of $2,500,000 that they would not have by working this out all together.

Another reason for working this line out with the Bureau of Reclamation, with the public utilities, and so forth, is that it will take care of it through one expenditure. If we all go in and do a portion of it, it means that everybody is putting in something, and it means additional cost. We feel that we can work together. We have a gentleman here from the Frontier Power Co. who will testify to you of their needs.

Senator WHERRY. Will this just be supplemental power to your own power?

Mr. DAVIS. No, sir. This will be our main power.

Senator WHERRY. What will happen to all of the little Diesel plants?

Mr. DAVIS. They will be disposed of. Each cooperative has plans for taking care of their portion of that. We all need added capacity. The situation is that they are small plants. The Bluewater project here needs how much additional capacity, Mr. Adams?

STATEMENT OF LON R. ADAMS, MANAGER, CONTINENTAL DIVIDE ELECTRIC COOPERATIVE, GRANTS, N. MEX.

POWER CAPACITY OF BLUEWATER PROJECT

Mr. ADAMS. Mr. Davis, our capacity at the present time is 3,250. We are generating at our peak about 2,450, which is a danger point.

Senator WHERRY. But you will continue to operate that?

Mr. ADAMS. Senator, we will have this plant there as a stand-by facility.

Senator WHERRY. Then if you build this big steam plant and hook up with this hydroelectric plant, that actually will take over your generating capacity and you will only keep these other plants for stand-by service?

Mr. ADAMS. That is right, sir.

Mr. DAVIS. I might add that there is a reason for that because the fuel costs makes for a higher cost per kilowatt. When we get into the Taos area we have a high elevation, and that increases your cost of fuel for plant operation. On that I would like to call on Mr. Burt, who will mention his part in this proposal.

Senator WHERRY. Just one more thing. But you are only going to keep this big steam plant for stand-by service, are you not?

Mr. DAVIS. No, sir. That big steam plant will be in operation all the time.

Senator WHERRY. All the time?

Mr. DAVIS. Yes, sir. That is the base load plant. Another thing is that actually at times we will have dump power for the Bureau that they can dispose of to the utilities. That will help to relieve the southern cooperatives, you see. I will get back to that in a minute.

Senator WHERRY. When you get through with those cooperatives how much juice will be left to filter into any other lines?

Mr. DAVIS. I will ask Mr. Woodruff to comment on that.

Senator WHERRY. He can answer that when he gets up.

Mr. DAVIS. All right. I can give it to you approximately, but I cannot give you the definite figures.

This dump power that goes into the line is where the cooperatives are exceeding their contracts with the Bureau. They are taking that only on an if, as, and when basis. If we have power they don't have, we have to dump load it. They cannot serve their own area. They cannot take care of their demands. We are all more or less in the same boat.

COST OF PRODUCING POWER

Senator HAYDEN. Let me ask this: What is the difference between the cost of power produced at this central plant with gas from a gas field as compared to what it costs you now to make it with these Diesel engines?

Mr. DAVIS. Our cost now is running from 14 to 27 mills. At the delivery point under this arrangement it will be 9 mills at the beginning and after 5 years that will be lower. At the beginning to get the thing functioning it will cost us a little more, but after we get the thing operating and can get delivery of power to points, we will have a lower cost because we will all be hooked into it.

Senator HAYDEN. The way it is now it is costing you more than a cent?

Mr. DAVIS. Yes.

QUESTION OF PRIORITIES IN USERS

Senator WHERRY. Will there be any question of disposing of the power equitably? There is a question of priorities involved here. Will any particular user get the priority over someone else?

Mr. DAVIS. Well, the cooperatives would have prior use of that plant. That is right, sir. For instance, if we came up to 45,000, which is the size plant we are planning on, we would have another unit for stand-by service in case of break-down. When you don't have a breakdown and you are operating, all that can be dumped back in a central plant much more practically than having these individuals. In other words, you can take a central plant and get more capacity out of that than you can out of individual plants if they exceeded that by one and a quarter times at least.

Senator WHERRY. I take it the cooperatives would have the distribution system. That does not change?

Mr. DAVIS. No, sir.

Senator WHERRY. Just the source of power?

Mr. DAVIS. That is right.

Now, this green line on this chart will be a cooperative line, and we will also wheel power for the New Mexico Public Service Co. at Las Vegas which they are interested in having. We will wheel power to the point here for the Frontier Power Co. to assist them.

Senator CHAVEZ. That is Frontier at Trinidad?

Mr. DAVIS. At Trinidad, yes.

Senator WHERRY. Will that be dump power you will give them?

Mr. DAVIS. That will be up to the Bureau. The Bureau will make their contracts with the power companies. We do not do that. They have other connections with the Public Service Co.

As I say, by hooking these plants together, you always have additional capacity and they can come in on a firmer contract.

Is that right, Mr. McPhail?

Mr. MCPHAIL. That is right.

Mr. DAVIS. That is to these public utilities.

Senator WHERRY. Now, this arrangement, as I understand it, for the record, it agreed to by the other sources, private power sources that might use some of this energy. Is that correct?

Mr. MCPHAIL. That is correct.

Senator WHERRY. It is a new source of power, and they are willing and want to take this power.

Senator CHAVEZ. How many people representing private power companies are here in the audience?

Mr. DAVIS. We have Mr. Patten.

Senator CHAVEZ. Will you identify yourself, Mr. Patten?

STATEMENT OF JAMES M. PATTEN, DIRECTOR, FRONTIER POWER CO., TRINIDAD, COLO.

Mr. PATTEN. I am James M. Patten, director of the Frontier Power Co. at Trinidad, N. Mex.

Senator CHAVEZ. Is Tom Brown here?

STATEMENT OF T. C. BROWN, MANAGER, SOCORRO ELECTRIC COOPERATIVE, SOCORRO, N. MEX.

Mr. BROWN. Yes. I am T. C. Brown, manager of the Socorro Electric Cooperative.

Senator CHAVEZ. Who else represents private enterprise?

Mr. DAVIS. We don't have any other public utility representatives with us at this time. We have a statement that we are filing for the record from Mr. Prager.

Senator CHAVEZ. And the private utility at Albuquerque is the largest one, and Mr. Prager represents that?

Mr. DAVIS. Yes, sir.

Senator CHAVEZ. I received a telegram from him.

Congressman Fernandez, have you anything to say?

STATEMENT OF HON. ANTONIO M. FERNANDEZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW MEXICO

REASON FOR ORIGINAL PRESENTATION TO SENATE COMMITTEE

Mr. FERNANDEZ. I also have received a wire from Mr. Prager at Albuquerque, and they are strong for making possible the integration of this service.

Senator CHAVEZ. You know the area that is proposed to be served by this. You know it first hand, do you not?

Mr. FERNANDEZ. Yes, sir.

Senator CHAVEZ. Do you not think the statements made by Mr. McPhail and Mr. Wickard and Mr. Davis here are correct?

Mr. FERNANDEZ. There is no question about that. With regard to this matter not being before the House, I can testify to the fact that they were trying to get this thing in final shape as we were urging so that it could be presented, and they weren't able to do it in time to have it presented before the House.

Senator WHERRY. You mean the Bureau or the REA?

Mr. FERNANDEZ. I mean the Bureau of Reclamation. Of course, it has to clear there first before it goes to the Bureau of the Budget.

Senator WHERRY. I understand that. Was the Bureau of Reclamation responsible for the delay?

Mr. FERNANDEZ. No, sir. Nobody is to blame for not having his house in order. As you understand, Senator, it takes quite a little bit of time to get all of this together and to agree to it because you have to get the utilities to agree to it, you have to get the cooperatives to agree to it, and you have to get the Bureau of Reclamation to agree to it. That is quite a job.

Mr. DAVIS. We didn't have our house in order—the cooperatives.

Senator WHERRY. I am just trying to get all of this into the record because after all we are starting here in the Senate and not in the House, where it ought to be handled first. I think that for your own good the record ought to show why this came to the Senate and why it didn't go to the House. I certainly think that before appropriations are asked for you should get your recommendation into the Bureau of the Budget and get the estimate of the Bureau of the Budget back here. That would be my suggestion if you hope to eliminate a lot of the hurdles you have to cross if this reaches the floor of the Senate.

Mr. FERNANDEZ. I assure you we appreciate that, Senator. We appreciate the opportunity of making that clear.

Mr. DAVIS. I would like to mention that here in our own particular area we have an old plant that will be retired in 5 years. We hope everything will hold together until we can see this project come in.

Now, at this time I would like to point out some of the defense loads.

Senator WHERRY. Before you get to that, do these cooperatives serve all the little towns around there?

Mr. DAVIS. No, sir. We serve some of the little towns. At Springer there is a municipal facility. The other small towns we serve. You will find that true more or less. Some of these serve towns. It is kind of a mixture.

Senator WHERRY. But if those municipal towns wanted you to supply them, you could give them priority according to law?

Mr. DAVIS. They are interested in seeing this happen, sir. Adomus is a municipal. I talked to their board of directors, and, if it is possible, they are interested. We don't have their representatives here, but if it is possible we could get them in.

Now, as to mining, for example here in the Mora area, there is a mica mine that has opened, and the Mora cooperative is only able to supply them for 8 hours a day.

Mr. Vigil, will you come in on that statement?

STATEMENT OF FLAVIO VIGIL, JR., MANAGER, MORA-SAN MIGUEL ELECTRIC COOPERATIVE, MORA, N. MEX

POWER NEED FOR MICA OPERATIONS

Mr. VIGIL. I am Flavio Vigil, manager of the Mora-San Miguel Electric Cooperative at Mora, N. Mex.

We have had a mica mill open up this year in Mora. It is producing the rate of three carloads a week at the present time. Now, this mill is carrying on only an 8-hour-a-day operation due to the fact that we don't have the electrical power to enable them operate for 24 hours a day.

Senator HAYDEN. To how much could they increase their output if they had firm power for 24 hours a day?

Mr. GIGIL. Their output is now 3 carloads a week, and they could probably increase it to 10 carloads because they are new, and as they go along they get more experience and they can produce more.

Senator WHERRY. Was the mill there prior to——

Mr. VIGIL. The mill was started this year, and there are prospects of two or three more mills going in there.

Senator HAYDEN. There are mica deposits there?

Mr. VIGIL. Yes, sir. Mora and San Miguel Counties, I might say, are full of mica. There are large quantities of it.

Senator CHAVEZ. Congressman Dempsey, do you care to comment?

Representative DEMPSEY. Senator, I don't think they have emphasized the strategic materials we have here sufficiently. They have the mica that has been mentioned around Mora and also at Arriba they have open up quite a deposit. And over at Grants you have a uranium deposit, which I understand is quite sizable. They want power and we want uranium, of course.

Now, the water situation in New Mexico is probably at its lowest ebb for any time within the last 50 years. We don't at any time have too much water in the reservoirs there. But this year we have less than we have had at any time since the dams have been constructed. I don't believe they can expect very much hydroelectric generation at Elephant Butte until we have more moisture to provide the water down there.

Senator WHERRY. When you get that central Arizona project, you will have plenty of water down in New Mexico, will you not?

Representative DEMPSEY. Senator, I have a great deal of regard for the Senator from Arizona, but he wouldn't give me a glass of water.

Senator CHAVEZ. We shed a tear, and they think it belongs to them.

Representative DEMPSEY. Senator Wherry, I want to say that I have probably talked to everybody that is interested in power in the State of New Mexico. This is the first time—and I used to be a public utility man—in my life where people were united on one thing, and that is this project.

Now, we have in the San Juan Basin in northern New Mexico a gas line coming to Los Alamos, which is just beyond where this plant is to be constructed. That will give them all the gas they want so far as fuel is concerned. It is the best type of fuel, natural gas, which we know about. That line is right through there. Further, Los Alamos is increasing by leaps and bounds. It is about 23 miles from our home.

Sandia Base also is increasing and has to do with very prominent war material.

Senator WHERRY. Now, may I ask a question off the record, Mr. Chairman?

Senator HAYDEN. Certainly.

(Discussion off the record.)

Senator WHERRY. Now, to continue on the record, how much power are you going to have?

Mr. DAVIS. There is not enough in this water system and they do not have any power to give us at all.

Senator WHERRY. That is what I mean. How much are you going to have?

Mr. DAVIS. Right now we need 30,000 kilowatts.

Senator WHERRY. Can you produce that at your steam plant?

Mr. DAVIS. Yes, sir, and we will have 15,000 to dump on the spare unit.

Senator WHERRY. That is, yourselves?

Mr. DAVIS. That is right.

Senator WHERRY. And you are going to be able to sell that any way you want?

Mr. DAVIS. Yes, sir. At off-peak we will have a little for them.

Mr. MCPHAIL. I might add to that, Senator, that the Bureau expects to be able to take and dispose of all the power which is surplus over the needs of the cooperatives. They will get their power first, and as their load grows they will finally absorb largely all of the plant output.

Senator WHERRY. They will probably take all of the 45,000?

Mr. MCPHAIL. Ultimately; yes, sir.

Senator WHERRY. That is, they can do what they please with it. The way you distribute it is already set up by law as to who gets priorities?

Mr. MCPHAIL. Yes, sir.

PROBLEM OF MORA COOPERATIVE

Mr. DAVIS. There is one more thing I would like to mention. The Mora Cooperative has been asked by the New Mexico Public Power Co. to find another source of power due to the fact that they are so short of power themselves. They want to buy power. They are in this problem, too.

At this time I would like Mr. Patman to mention, in his capacity with Frontier Power Co., what his situation is.

Senator WHERRY. He is a private power operator?

Mr. DAVIS. Yes, sir, and he is also a stockholder in the New Mexico Public Service Co.

FUEL COST

Mr. PATTEN. In northern New Mexico we do need more power. The Frontier Power Co., up until 6 months ago, operated the power plant at Dawson, N. Mex. The Phelps-Dodge Co. has shut down the coal mine there, and we have no source of coal nearer than about 24 miles. So the cost of coal has gone up from $3 a ton to $7 a ton. From a private power company standpoint, we are very happy to see some extra power brought in. We believe that the price of power from natural gas at this location will be at about the equivalent of the cost of coal of $4.50 to $5 a ton, so we will be able to secure power in this area cheaper than we can now.

The same thing is true with Mr. Prager and his company.

Senator WHERRY. Naturally, I take it you would rather buy your power cheaper than you can produce it?

Mr. PATTEN. It costs us better than a cent to produce power with $7 a ton coal. If we can buy it at 7 9/10 mills from the boys down here, we are happy to buy it from them. Art Prager down here at Albuquerque is going to buy off-peak power at 6¼ mills, according to my understanding of this proposal. He can't produce it that cheap himself, so he will be very happy to go along there.

As I understand this proposal, natural gas runs between 18 and 24 cents. That is cheaper than we can buy coal in the area up north here, so that from a private power company angle we are glad to see this come along. We need the capacity and we need the low cost power.

Senator WHERRY. Will you continue to operate your plant?

Mr. PATTEN. We have a plant at Trinidad and we are joining in the operation at Dawson. We have too much of a load up here to pull it from down south unless there were to be an amendment of the REA law so as to let them sell us some firm power. As private operators, we don't get a chance at firm power unless it is accidentally available, as I understand it.

Senator WHERRY. Do you mean you have power at the north end of the line that you can't do anything with?

Mr. PATTEN. It is high cost power, though. We are building power right now in Dawson at a cent and a quarter. We have power there, but if we can replace it with 7⁹⁄₁₀ mill power, I will be happy to shut down at Dawson.

Senator WHERRY. Will you shut down if you get your power just from here?

Mr. PATTEN. No. I can't get the boys with this size of plant that is in here to furnish me enough to sell. I would like to get an extra 10,000 from them, but they say they can't, under the law, put in a fourth unit now. If they could put in three 20's or four 15's——

Senator WHERRY. You mean you are limited by the size of the plant?

Mr. WICKARD. We can only put into a plant that amount of power which will be ultimately needed by the cooperatives. Now, there would be an interim period where probably there would be some surplus power and off-peak power which could be sold. But we can't put in firm capacity to take care of somebody else other than the REA cooperatives.

Senator WHERRY. I see.

Senator HAYDEN. Let me ask a further question. You speak for your company and for what other public utility companies in New Mexico?

Mr. PATTEN. The Public Service Co. of New Mexico, but I am more associated with Frontier Power Co.

Senator HAYDEN. You have talked with them and what you say is what they would say if they were here?

Mr. PATTEN. They also have an affidavit here which indicates that they are in approval of this plant. They request that the plant be built and that the power lines be built, too.

Senator WHERRY. I take it the gas is the thing that makes a difference in the cost?

Mr. PATTEN. It makes the low-cost fuel.

Senator WHERRY. That is what makes it possible?

Mr. PATTEN. Yes, sir.

Senator HAYDEN. How long has this gas field been developed?

Mr. PATTEN. From Los Alamos it has just been made available recently.

Senator HAYDEN. By pipeline?

Mr. PATTEN. Perhaps you know that they first decided to build the plant over in this part of the State, but it was a question of running nearly a hundred miles with this pipeline whereas it is only about 12 miles from here. That pipeline will have to be enlarged, but there is actually some gas service already there. It is a very small amount, however.

Senator CHAVEZ. They are going to tap the Los Alamos pipeline, which is only about 12 miles west.

Senator WHERRY. What about the cost of power down south?

Mr. PATTEN. When you get down in here, you get natural gas again.

Senator WHERRY. What is the situation about midway where that line is going to be built, the dotted line on the map?

Mr. PATTEN. Over in here?

Senator WHERRY. Yes.

Mr. PATTEN. They are using coal at Vegas right now. The cost of coal the last time I saw it was $6.84 a ton. So if they can bring in power here at Vegas, they would like to have it in that place, too.

Senator WHERRY. That is, at less than they would have to pay to produce it?

Mr. PATTEN. That is right.

Mr. DAVIS. Mr. Patten, if you are through, I would like to submit my statement for the record.

Senator CHAVEZ. In order to have the record prepared correctly, Mr. Davis, I might suggest that any gentlemen who have statements they would like to submit for the record do so.

Senator HAYDEN. That will be done.

Mr. DAVIS. We have a number of prepared statements, and then Mr. Woodruff has a statement, which is an engineering study, which we would like to file for the record. Do you want those all now?

Senator HAYDEN. Yes.

Mr. DAVIS. Will you gentleman pass your statements forward, please.

Would it be possible to hear Mr. Woodruff and the representatives of the cooperatives briefly?

Senator HAYDEN. If you can make it as brief as possible.

Mr. DAVIS. They will cut their time down as much as they can. There are a number of gentlemen I would like to call on briefly, for 3 to 5 minutes or less, whatever you wish. I would like to first have Mr. Woodruff, the engineer, speak for a moment.

STATEMENT OF F. E. WOODRUFF, ENGINEER, FREESE & NICHOLS, FORT WORTH, TEX.

COORDINATION OF PLANS WITH BUREAU OF RECLAMATION

Mr. WOODRUFF. My name is F. E. Woodruff. I am a consulting engineer for the Plains Electric Generating Cooperative. I am the boy that has helped throw this into an emergency, I think, because we have had to revise this report some five or six times in order to get it into shape so that it would comply with all of the ideas.

We started thinking about this some 3 or 4 years ago, that is, the cooperatives. They were the ones that started this deal. They got the engineers first to work with them, and we tried it from several angles. The Bureau of Reclamation was not as friendly to us when we first started with them about this idea, although they are certainly admirable gentlemen and have given us good service lately.

Senator WHERRY. Why weren't they friendly in the first place?

Mr. WOODRUFF. I think they had plans of their own, sir; and they weren't sure these plans would fit in with them. We had to prove to them that we could fit our plans in with theirs and not disrupt their program. That took some little time.

Also we had to find the point where the plant would serve the ultimate picture. Now, a steam plant is always useful with hydro, regard-

less of how it can use that. Also one plant gains power that apparently isn't there if you have a lot of little plants because the peaks on the little plants don't hit at the same time. The diversification gives you more useful power out of a large, efficient plant to a greater extent than you can get out of a lot of little ones.

WATER SHORTAGE

Now then, as I say, the water situation is the emergency there. The fact that the water was running low in the rivers and more people wanted to pump was the thing that made this thing seem to grow and snowball. Where there was no question but that the Diesels operating at high altitudes are not efficient. All of these Diesel engines are rated at sea level, and when you go up higher they don't get the same efficiency. Also when you have to haul Diesel fuel for a good long ways, it is expensive.

So these people saw their loads growing. They have never been able to merchandise electricity. These cooperatives have never been able to go out and do a job because they didn't have enough to encourage people to use it. They were trying to catch up with the thing that was on them. When they began looking around about putting different units in all of these little isolated plants, they found it ran into a lot of money. Of course, it was just as logical as could be that the engineer would begin to think, well, let's get us a big plant. Not to hurt anybody, it had to go in at a location where gas would be available. We would have to get a gas contract that REA operators could live with. We had to get a location where it wouldn't upset the plans of the Bureau of Reclamation.

And so we have finally come up with this. We have tried a lot of angles on the matter of fuel. Now, this is one thing that has been mentioned very briefly: These lines, the connecting line down here to the Bureau, is going to have the corollary advantage that it is going to go right past Los Alamos. Los Alamos got their own plant. Now they have gotten a firming up through Santa Fe, that is a 44-kilovolt line and it wouldn't carry much of a load hsould Los Alamos suddenly want to increase. If they could go to the Bureau of Reclamation, being a high priority customer, they could get power with a good plant in here.

Now, it is going to take a little time to get this in, but the emergency is the fact that you have to stand in line for equipment. We have to get going. If we had to wait until this time next year, we would be in terrible shape. Some of these little plants would have to have additional work done.

Now then, in the statement which we filed we have letters from the power companies saying that they want to take additional power at Las Vegas, which is now an isolated plant, and also at Albuquerque. We have a statement in the record from Mr. Prager.

I don't know that I can add a great deal. The rental of these lines is a useful thing in that it doesn't increase the cost to the cooperatives a great deal. It will be less than 2 mills at any time. It will increase the power to the cooperatives less than 2 mills. As has been stated before, it is the most economical and the most practical way an engineer can devise to get power to the most people in the northeastern part

of New Mexico where they haven't had anything but little isolated plants struggling along. This is the one big opportunity to get something really done.

Senator HAYDEN. Thank you. All right, who is next?

STATEMENT OF R. J. MOSES, ATTORNEY, SAN LUIS VALLEY RURAL ELECTRIC COOPERATIVE, MONTE VISTA, COLO.

SAN LUIS VALLEY LINE

Mr. DAVIS. I will call Mr. Moses. Mr. Moses, you are from Monte Vista?

Mr. MOSES. Yes, sir.

Senator CHAVEZ. Would you like to make a statement?

Mr. MOSES. I have filed a statement, and I would like to make one brief oral statement, if the committee please.

My name is R. J. Moses. I am attorney for the San Luis Valley Rural Electric Cooperative, Inc., with offices at Monte Vista.

I want to call the committee's attention to one feature that hasn't been mentioned and about which you may hear something from the Public Service Co. of Colorado. At the present time we are receiving power from the Bureau of Reclamation at its Big Thompson project, Green Mountain Dam, which is being wheeled to us by the Public Service Co. of Colorado, for which we are paying a 3-mill wheeling charge. I understand that the Public Service Co. of Colorado is going to object to the construction of the line into the San Luis Valley.

I want to explain why it is so very important to us that that line be built.

Senator HAYDEN. With the 3-mill wheeling charge, how much does it cost you all together?

Mr. MOSES. About 9½ mills. But with us it is not particularly a matter of price. It is a matter of source of power. The San Luis Valley in Colorado is a very fertile, very large irrigated land area where the water supplies for the past 2 years have been extremely short. This year it is the shortest since 1885. More and more as the water from the direct flow of streams becomes less satisfactory, the farmers are turning to pumping wells. Our load has grown tremendously for pumps for irrigated land.

Senator HAYDEN. How about your water table? How much has your water table dropped?

Mr. MOSES. There hasn't been any change in that, Senator. However, I suppose that is undoubtedly something that will come eventually.

Senator HAYDEN. It came to us.

Mr. MOSES. Yes, sir. In 1945 we had no pumps. At the present time our pump demand is in the neighborhood of 4,000 kilowatts. We would have another 5,000 on the line if we had the power at the present time.

The Bureau of Reclamation, region 7, has advised us in a letter dated March 21 of this year that they will not be able to furnish us all of the power that we need. They tell us we must look elsewhere for a source of power. Therefore, the wheeling contract which is now in existence, although it serves us very nicely at the present time, will

be of no use when the source of power which is being wheeled dries up. We must turn and find a new source of power.

Region 7 said:

Service to your cooperative and to other cooperatives which are beyond the normal market area of Colorado-Big Thompson—

which is to serve northeast Colorado, not southern Colorado—

should not be considered as a solution to your ultimate power-supply problem. Thus, while we are able under the wheeling contract to furnish electric service to your cooperative for a relatively short period of time, your cooperative must look to other potential sources within your area for your ultimate power supply.

(For complete text of letter see statement of Ray W. Villyard.)

Now, we anticipate that before many years have elapsed the development of power on the Rio Grande at Wagon Wheel Gap, and on the Gunnison-Arkansas project will mean that those hydro plants can be tied in to these lines, which are only advance construction of the backbone lines which are going to have to be built ultimately to tie those major hydro projects together. Thank you.

Senator HAYDEN. Thank you.

We have Senator Murray, of Montana, waiting. Is there anyone else you want to call?

Senator CHAVEZ. I think we have made enough of a showing, Mr. Davis.

Does everybody have their statements in the record?

Mr. DAVIS. We are sorry that you don't have any more time. There are a couple of things I would like to mention in closing.

The first is that there is not in this whole area enough hydro. We need this firming up power. You cannot go on with your Diesel because your demand is too great. It isn't practical.

Now, your water situation in that area—you know the seriousness of it. You don't have the water power. Now, with more power it is going to be possible to make more water available through pumping to our farmers and ranches. You well realize that, I am sure.

I would like to thank you gentlemen for your courtesy and kindness.

Senator HAYDEN. When you look over your transcript tomorrow, if you find there are any additional statements you want to put in, that may be done.

Mr. DAVIS. All right, thank you.

Senator CHAVEZ. Thank you very much. Thank you, Mr. Wickard, Mr. McPhail and Mr. Nelson.

(The following persons appeared but did not testify before the subcommittee:)

Lawrence Potamkin, attorney, Plains Electric Generating Cooperative, Washington, D. C.; Ray W. Villyard, manager, San Luis Valley Rural Electric Cooperative, Monte Vista, Colo.; and the following from New Mexico: M. N. Mikesell, director, Springer Electric Cooperative, Springer; Charles H. Seemann, manager, Jemez Mountains Electric Cooperative, Espanola; Milton S. Seligman, attorney, Jemez Mountains Electric Cooperative, Espanola; Gaylord A. Burt, manager, Kit Carson Electric Cooperative, Taos; Eric L. Freelove, assistant secretary-treasurer, Jemez Mountains Electric Cooperative, Espanola; John T. Jordan, manager, Northern Rio Arriba Electric Cooperative, Chama; Robert F. Brashar, director and treasurer, Northern Rio Arriba Electric Cooperative, Chama; Fred J. Abousleman, secetary-treasurer, Jemez Mountains Electric Cooperative, Espanola; C. K. Brashar, president, Espanola State Bank, director, Jemez Mountains Electric Cooperative, Espanola; J. A. Montoya, president, Jemez Mountains

Electric Cooperative, Espanola; Barton Davis, director, Continental Divide Electric Cooperative, Grants; George Lauato, president, Kit Carson Electric Cooperative, Taos; Virgilio Trujillo, member, Kit Carson Electric Cooperative, Taos; and Philip R. Mauro, vice president, Kit Carson Electric Cooperative, Taos.

(The statements submitted for the record are as follows:)

FEASIBILITY STUDY

PLAINS ELECTRIC GENERATING COOPERATIVE, INC.

New Mexico 18 Plains

(Engineers: Tynes and Loftin, Albuquerque, N. Mex.; Freese and Nichols, Fort Worth, Tex.)

INTRODUCTION

This study is prepared at the request of the board of trustees of the Plains Electric Generating Cooperative, Inc., for the purpose of presenting a plan for the consideration of this proposed project to the Rural Electrification Administration in support of a request for a loan from that agency to finance the construction of necessary generation facilities.

The seven distribution cooperatives in the northern part of New Mexico and southern Colorado that would receive service from the Plains Electric Generating Cooperative, Inc., are as follows:

San Luis Valley Rural Electric Cooperative, Inc. (Colorado, 15, Alamosa), Monte Vista, Colo.
Kit Carson Electric Cooperative, Inc. (New Mexico, 11, Taos), Taos, N. Mex.
Mora-San Miguel Electric Cooperative, Inc. (New Mexico, 14, Mora), Mora, N. Mex.
Northern Rio Arriba Electric Cooperative, Inc. (New Mexico, 15, Rio Arriba), Chama, N. Mex.
Springer Electric Cooperative, Inc. (New Mexico, 19, Colfax), Springer, N. Mex.
Continental Divide Electric Cooperative, Inc. (New Mexico, 22, McKinley), Grants, N. Mex.
Jamez Mountains Electric Cooperative, Inc. (New Mexico, 28, Sandoval), Espanola, N. Mex.

It is the intent of this study to consider the possibilities for constructing a steam-electric generating plant in northern New Mexico to provide benefits for the member cooperatives listed above. As a result of discussions between the officials of the Plains Electric Generating Cooperative and the REA Administrator, this study is predicated upon the advance construction by the Bureau of Reclamation of certain transmission and substation "backbone" facilities necessary to distribute generation from the proposed steam plant to the cooperatives and for furnishing, through the Bureau of Reclamation, any surplus as additional power for the cooperatives in southern New Mexico.

SCOPE

The scope of this report includes a study of the power requirements of the various distribution cooperatives, of their present power supplies, and of the proposed plan for providing them with service from a central plant with interconnections with the power system of the Bureau of Reclamation.

This report is broken down into three steps: An initial step, a second step referred to as the 1957 program, and the third step referred to as the 1962 program.

It is not considered within the scope of this study to evaluate possibilities of interconnections with all existing utility companies in the Colorado-New Mexico-West Texas Area, since but one definite commitment for interconnection has been made at the time of preparation of this report.

This report is based on considerations for the establishment of a cooperative-owned generating plant, to be located near Espanola, in north-central New Mexico, with a firm capacity sufficient to serve the initial system and with provisions for expansion to serve, in connection with other interconnected power sources, the 1962 projected loads of this system.

The plan of operation under the three steps is to be based on the use of advance construction of Bureau transmission and substation facilities to the extent necessary to serve the member cooperatives.

A connection with the Bureau at Albuquerque will make any surplus power available to the cooperatives in the southern part of New Mexico.

DISCUSSION

At present, the distribution cooperatives in the area are obtaining power either from generating plants owned by the individual distribution cooperatives or from private power companies.

Table I, Present Power Sources, includes a list of distribution cooperatives in the area, showing the source of generated or purchased power, the approximate demand and rate being paid.

TABLE I.—*Present power sources*

Member cooperatives	Source	Approximate present demand, kilowatts	Average rate per kilowatt-hour
Colorado 14 Alamosa	Public Service Co. of Colorado	4,100	$0.014
New Mexico 11 Taos	Own generation	1,700	.019
New Mexico 14 Mora	Public Service Co. of New Mexico.	400	.014
New Mexico 15 Rio Arriba	New Mexico 28 Sandoval	700	.020
New Mexico 19 Colfax	Own generation	2,500	.015
New Mexico 22 McKinley	do	2,700	.015
New Mexico 28 Sandoval	do	1,500	.020

From table I, it is evident that the southern Colorado and northern New Mexico area, the Plains Electric Generating Cooperative, Inc., proposes to serve is truly a power-starved area. The power shortage to these cooperatives is real and immediate. Shortage of electric power is largely responsible for the underdevelopment of this area, particularly with regard to irrigated farming. In addition to the cost of wholesale energy being high, the record of availability of wholesale power to the distribution cooperatives has been very unsatisfactory.

In order to determine the loads that the cooperatives might experience in the future, the Rural Electrification Administration has furnished load estimates for the member distribution cooperatives. Detailed load estimates for each cooperative are included in the appendix of this report, and a recapitulation of these loads appears below in table II.

TABLE II.—*Schedule of load estimates*

Member cooperatives	1954		1957		1962	
	Power, kilowatts	Energy, thousand kilowatt-hours	Power, kilowatts	Energy, thousand kilowatt-hours	Power, kilowatts	Energy, thousand kilowatt-hours
Colorado 14 Alamosa	4,380	12,747	6,550	20,284	9,250	30,492
New Mexico 11 Taos	3,185	11,240	7,269	23,347	9,449	30,127
New Mexico 14 Mora	744	2,695	1,291	4,592	2,586	9,457
New Mexico 15 Rio Arriba	502	1,903	1,227	4,936	2,251	9,325
New Mexico 19 Colfax	1,346	5,639	2,901	13,485	3,914	17,553
New Mexico 22 McKinley	4,609	14,904	7,096	24,515	10,222	37,920
New Mexico 28 Sandoval	2,776	10,970	5,392	21,142	8,522	33,413
Total	17,542	60,098	31,726	112,301	46,194	168,287

FUTURE PLANS OF THE BUREAU OF RECLAMATION

As stated in the introduction to this report the Plains Electric Generating Cooperatives plan for construction of a steam-electric generating plant in northern New Mexico is contingent upon the advance construction of certain lines and substations by the Bureau of Reclamation. This approach has been approved in connection with REA generating and transmission cooperatives in North and South Dakota where completion of Government hydro-power plants is several years in the distance and there is an immediate need for additional power for

REA cooperatives. This same general plan is proposed by the Plains Electric Generating Cooperative in connection with future Bureau hydro developments in northern New Mexico and southern Colorado. By construction of an REA-financed steam plant and the advance construction of Bureau transmission facilities, needed later in connection with Government hydro-power development, the Plains Electric Generating Cooperative will be able to eliminate the need for construction of transmission facilities which would duplicate the future Bureau lines, except at smaller capacity.

The Bureau's existing Rio Grande project power system will soon extend to Albuquerque, N. Mex., and the Bureau's Colorado-Big Thompson project in central Colorado now extends south to Dillon, Colo. The Rio Grande project, the Colorado-Big Thompson project, and the following proposed projects by the Bureau include the development of hydro power:

(1) The Gunnison-Arkansas project in southern Colorado now being proposed for authorization and construction.

(2) The San Luis Valley project which is now authorized for irrigation. Advance studies on this project are nearing completion and will include the investigation of power features preparatory to submitting a Bureau report on recommended power developments, and

(3) The San Juan-Chama diversion project in northern New Mexico, now under investigation, which proposes the diversion of San Juan River water across the Continental Divide into the Rio Chama for power generation, irrigation, and other purposes.

Since it is the ultimate plan of the Bureau to interconnect the existing and proposed hydro-developments, it is evident that the Bureau will have need for a transmission grid in northern New Mexico. Under the proposed plan of the Plains Electric Generating Cooperative, the Bureau would construct certain elements of this future grid at this time. The facilities selected for advanced construction are these parts of a system that will be needed to connect future Bureau hydro projects and which can be presently utilized to distribute power from the Espanola plant to the member cooperatives.

JOINT PLAN OF DEVELOPMENT

Some of the cooperatives in southern New Mexico are now being served by the Bureau of Reclamation's Elephant Butte power system. In connection with the Elephant Butte system, it is pointed out that: (1) Existing firm power contracts between the Bureau and its Rio Grande power customers now total the normal capacity of the Elephant Butte hydro plant and no increase may be made to existing contracts for supply from the Elephant Butte power plant. (2) Present capacity at Elephant Butte is far below normal because of the extremely low water conditions and cannot reasonably be expected to return to normal for several years; consequently, there is no prospect for surplus capacity from Elephant Butte, even temporarily.

The situation at Elephant Butte means that the firm power contracts of the cooperatives in southern New Mexico cannot be increased beyond the rates of delivery specified in existing contracts. The loads of the cooperatives will soon exceed their present contracts. Under the plan proposed in this report, the Espanola plant would be connected with the Bureau by a 115-kilovolt line to be built from Espanola to the Albuquerque terminus of the Bureau's Elephant Butte-Albuquerque line. Through this connection the Elephant Butte system would be firmed up and surplus power from the steam plant would be available to the cooperatives in the south.

It is obvious that the member cooperatives have an immediate need for an additional power supply. Also, from the above outline of Bureau plans, it is evident that the Bureau has a future need for a transmission network in northern New Mexico and southern Colorado. Thus, it is logical for the Plains Electric Generating Cooperative and the Bureau of Reclamation to develop a joint plan to meet the needs of the cooperatives. The plan presented herein is designed to meet these needs with minimum investment by the Plains Electric Generating Cooperative and to supply power at a low average rate to the member distribution cooperatives.

Alternate supply.—In the absence of private-utility systems in the area, the alternative to this plan would be for the individual cooperatives to install small individual internal combustion power plants plus subtransmission lines. Such installations would be adequate for interim periods only and a need for firm power from an integrated power system supplied from steam-plant generation would still remain.

Use of Elephant Butte hydro plant.—Through the interconnection with base-load steam-electric plants, including the Espanola plant, the Elephant Butte plant could be used for peaking operations, with off-peak water releases held to a minimum, and with base-load plants providing the necessary energy for customers served by the Bureau system. Under the above plan, wherein the Bureau hydro plant would be interconnected with the proposed Plains Electric Generating Cooperative steam-electric plant and with private utilities in the area, it would be possible to use the cooperative plant as a steady producer, with the hydro plant being called upon as required to serve peak loads on the system. It is envisaged that by 1962 approximately 22,000 kilowatts of peaking power will be available to the cooperative from the Bureau of Reclamation. Any additional power and energy will depend in the main on proposed Bureau developments on the upper Rio Grande and its tributaries in northern New Mexico and southern Colorado. If these developments occur by 1962 no additional equipment should be required in the steam plant. Using the above as a basis, it is planned to initially construct a steam plant with three 15,000-kilowatt turbogenerators, with provisions for an additional 15,000-kilowatt turbogenerator to be added by 1962. By operating this plant at a good plant factor, using Bureau of Reclamation power for peaking purposes, surplus energy may be made available to other agencies in the area. Base loading of the steam plant also reduces the average cost per kilowatt-hour produced at the plant, which in turn reduces the cost of power to the distribution cooperatives.

Summary.—The joint plan would—

(1) Serve needs of member cooperatives with minimum investment expense to them;

(2) Supply additional power to the Bureau's Rio Grande system, including the cooperatives in southern New Mexico; and

(3) By loading the proposed steam plant during the development period through sales of substantial blocks of power to the Bureau's Rio Grande project, hold the cost of power to the distribution cooperatives to a low average rate per kilowatt-hour as compared to the cost to cooperatives from present or alternate power sources.

ESPANOLA STEAM PLANT

General.—In order to furnish a prime source of power for this plan, the construction of a steam-electric generating plant in northern New Mexico is herein considered. Location of the plant is determined by the availability of fuel and water, as well as consideration of the loads to be served and the transmission system to which it would be connected. It is planned to construct a steam plant and to initially install three 15,000-kilowatt turbogenerators, with provisions for a fourth unit to be added in 1962, without major alterations to the building, auxiliaries, or first three units. Detailed discussion of the chosen capacity of this plant will be presented in this discussion on the proposed plan of operation of this system.

A review of the scheduled load estimates of the cooperatives (table II) reveals considerable load in the San Luis Valley area. This, together with the Bureau's generation at Elephant Butte will mean that the load center of the integrated system is somewhere in the north central part of New Mexico. After reviewing the various fuel and water supply problems in this area, it was decided to consider a location near Espanola, N. Mex., as the site for the steam-power plant. Here, gas lines from the extensive northwestern New Mexico gas field pass near the proposed site, and water is also available. This location is advantageous to the member cooperatives, but since the other cooperatives in New Mexico will later face a power shortage as real and severe that now is being faced by the member cooperatives, an interconnection with the Bureau of Reclamation's system has outstanding merit. The Espanola site is ideal for this interconnection and fits into the future plans of the Bureau. This location also lends itself well to economical construction.

The plant is to be a natural gas-fired steam plant with oil as a secondary fuel. Power generating units are to be hydrogen-cooled turbogenerators.

The turbine generator units will be specified in accordance with the AIEE-ASME preferred standard rating and will be designed for installation on the unit system. Synchronizing and load pick-up will be accomplished on the high voltage bus system.

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Each generator will be connected to a three-phase 18,750 kilovolt-ampere, 13.8 kilo-volt delta to 115-kilovolt wye step-up transformed. The high side of these transformers will be connected to a 115-kilovolt substation through oil circuit breakers. The two out-going circuits for the 115-kilovolt lines north and south on the proposed Bureau of Reclamation system will be connected to the 115-kilovolt substation through oil circuit breakers. Space is to be provided at the end of this structure for an additional future bay to be used as a tie to the ultimate 230-kilovolt system, planned by the Bureau of Reclamation.

Individual station service transformers 1,500-kilovolt-ampere, 13.8-kilovolt delta to 2.4/4.16-kilovolt wye are to be installed to operate electrically driven station auxiliary equipment. The 2.4/4.16 kilovolt will be further stepped down at load centers to 480 volts three-phase for small power units and 120/208 volts wye for lighting. Each transformer is sized to carry the auxiliaries for its generating unit. These transformers will be energized directly from the 13.8-kilovolt generator leads of each respective generator.

A three-phase 12,000-kilovolt-ampere transformer installed in the plant substation and connected to the 115-kilovolt bus will be used for the dual purpose of stepping down to 69-kilovolt wye for subtransmission service for New Mexico 15 Rio Arriba and New Mexico 28 Sandoval, and for 2,400 volts delta service, through the transformer tertiary for station start-up service. A one-line circuit diagram is enclosed in the appendix of this report showing the described electrical arrangement.

The estimated cost of the plant is summarized in table A in the appendix of this report. The cost, including plant substation, is approximately $172 per kilowatt for the first step, and decreases to approximately $169 per kilowatt after the fourth unit is added. The fourth unit will probably need to be installed sometime between 1957 and 1962 unless the Bureau of Reclamation has completed sufficient hydro development in the area to provide the cooperative with the additional power required.

Power production.—In order to study the loads on the projected system the demands taken from table II are summarized in table III.

TABLE III.—*Demands of system*

	Kilowatts		
	1954	1957	1962
Total noncoincident demand	17,542	31,726	46,194
Estimated total coincident demands, at 80 percent	14,000	25,000	37,000

The energy requirements may be easily reviewed by a recapitulation of table II, presented below in table IV.

TABLE IV.—*Plant generation*

	Kilowatt hours		
	1954	1957	1962
1. Generation for member co-ops:			
(*a*) Sales	60,098,000	112,301,000	168,287,000
(*b*) Delivery losses to co-ops, at 5 percent	3,005,000	5,615,000	8,415,000
2. Generation for delivery to Bureau at plant bus:			
(*a*) Sales	213,000,000	201,000,000	[1] 251,000,000
(*b*) Losses, at 5 percent	10,650,000	10,000,000	12,550,000
3. Generation for plant use	14,335,000	16,450,000	22,000,000
Total gross generation	301,088,000	345,366,000	462,252,000

[1] Based on limit of plant capacity.

The 15,000-kilowatt units operated at 110 percent rating, at 0.85 power factor and 80 percent capacity factor will produce the following outputs:

	Million kilowatt-hours per year
1 machine will produce	115.6
2 machines will produce	231.2
3 machines will produce	346.8
4 machines will produce	462.4

It will be noted from table IV, plant generation, that three machines will be required to supply the projected load for 1954. In 1962 the total generation is estimated to be 462,252,000 kilowatt-hours. This will require the output of four units. The fourth unit would need to be installed sometime between 1957 and 1962 to provide firm power for the system unless other sources are developed. The Bureau of Reclamation, in its plan of development of the upper Rio Grande Basin, hopes to have authorization for its initial hydro plants by 1955. This might be for as much as 40,000 kilowatts, in which case, additional generating capacity in the steam plant might not be required.

Plant operations.—As stated elsewhere in this report, the plant is to be integrated with the Rio Grande project's Elephant Butte power system at Albuquerque. Carrier current communication equipment will be installed to provide dispatching facilities between the Espanola plant and the Elephant Butte hydro plant. This is necessary to provide for operation of the integrated system under normal load conditions and emergency conditions. The Bureau will also have carrier communication with the interconnected utility systems.

The personnel necessary to operate the plant will include one plant superintendent, six operators, six firemen, six oilers, one electrician and one machinist. The total salary for the above operating personnel plus extra maintenance personnel part time, is estimated to be $130,000 per year.

Housing facilities for plant personnel will be available at nearby Espanola, and a paved State highway passes near the plant site to Espanola and to Santa Fe, N. Mex. Thus, it is considered that housing and transportation facilities are adequate for operation of the plant.

Water for the operation of the plant will be supplied from wells in the nearby Rio Grande bed sands. The operation of the plant will require approximately 600,000 to 800,000 gallons of cooling water make-up per day with three of the plant units in operation.

Fuel supply.—The natural gas for fuel will be supplied from a private gas transmission system, owned by the Southern Union Gas Co. Peak requirements of the plant would require facilities sufficient to provide 800,000 cubic feet per hour to the plant and a daily consumption of approximately 18 million cubic feet, based on a fuel rate of 13,500 B. t. u.'s per gross kilowatt-hour generated.

Negotiations have been under way with Southern Union Gas Co. for sometime on the basis of a maximum supply of 20 million cubic feet per day delivered at the plant. Negotiations have disclosed that gas is available from the San Juan field, and a contract has been drawn up containing a rate of about 24 cents per thousand cubic feet. The B. t. u. content has been assumed at 1,000 and this figure has been used to calculate the fuel costs in this report.

Fuel clause.—It is recommended that the Plains Electric Generating Cooperative have a fuel clause in its contracts to furnish power to the Bureau of Reclamation and the member cooperatives in order to provide protection against rising fuel costs. Should the gas rate exceed the figure of approximately 24 cents per million B. t. u., then the rates to the Bureau and the cooperatives could be raised accordingly.

A map of the Southern Union Gas Co. system is included in the appendix of this report and shows the facilities the company proposes to use to supply the demands of the steam plant.

BUREAU TRANSMISSION FACILITIES FOR ADVANCE CONSTRUCTION

Transmission lines and substations programed for advance construction by the Bureau of Reclamation in connection with this plan are shown in the appendix of this report. These lines and substations fit in the Bureau's future plans for hydro power development in northern New Mexico and southern Colorado including the interconnections between existing or proposed Bureau project. Locations of the lines and substations are shown on the key map included with this report. The lines are planned to be of wood pole H-frame construction, with

397,500 CM ACSR conductor and two overhead steel static wires. All substations are to be permanent-type steel structures with one three-phase transformer and necessary high-and-low voltage switching and protective equipment. All costs are shown in detail in the appendix of this report.

Summarized, they are:

Transmission lines

Designation	Length, miles	Estimated cost
Espanola-Albuquerque	85	$1,136,000
Albuquerque-Grants	68	963,000
Espanola-Taos	42	586,000
Taos-Springer	64	1,038,000
Taos-Monte Vista	103	1,404,000
Total	362	5,127,000

Average cost per mile, $14,160.

Substations

Location	Voltage, kilovolts	Capacity, kilovolt-amperes	Estimated cost
Grants	115-24/9/14.4	12,000	$225,000
Taos	115-24.9/14.4	10,000	460,000
Springer	115-69	15,000	290,000
Monte Vista	115-69	10,000	324,000
Albuquerque southwest station			500,000
Communications and control			40,000
Total		47,000	1,839,000

NOTE.—Power for New Mexico 14 Mora will be supplied over 69-kilovolt lines from Springer substation power for New Mexico 15 Rio Arriba will be supplied from 69-kilovolt lines from Espanola plant substation.

MEMBER COOPERATIVE GENERATING PLANTS AND TRANSMISSION LINES

Several of the member cooperatives now own and operate generating plants. These are:

Plant location	Owner	Type
Dawson	New Mexico 19 Colfax	Steam.
Taos	New Mexico 11 Taos	Diesel.
Espanola	New Mexico 28 Sandoval	Do.
Grants	New Mexico 22 McKinley	Do.

It is planned that each of these distribution cooperatives continue to own their plants even after the proposed plant is placed in operation.

The Dawson plant, owned by the Springer Electric Cooperative, Inc., is an old one and should see supersession within 5 or 6 years. By this time all units should be in the new Espanola plant, and this old unit dismantled and sold.

The Taos plant, owned by the Kit Carson Electric Cooperative, Inc., is a high-cost producer and chances are it will always be. For this reason, the Taos plant should be considered only as a stand-by plant.

The Espanola Diesel plant, as now planned for construction by the Jemez Mountains Electric Cooperative, Inc., should be a modern low-cost producer since it will be on a gas line and will be dual fuel. If plans for the proposed steam plant can be carried out expeditiously, the expenditure for the Diesel units can be deferred. The present fuel Diesel plant at Espanola has about served its usefulness, and like the Dawson plant, can soon be retired.

The Grants Diesel plant, owned by the Continental Divide Electric Cooperative, Inc., is a high-cost producer and should be kept only for stand-by purposes.

Several of the cooperatives also own or are planning to build transmission lines of 69 kilovolts and below. It is intended that these lines remain the property of the individual distribution cooperatives and that they operate and maintain them.

POWER FOR DEFENSE INSTALLATION

The proposed interconnected power system, including the Plains Electric Generating Cooperative (Espanola steam-electric plant), the Frontier Power System, Bureau of Reclamation, Public Service Co. of New Mexico (Albuquerque), Community Public Service Co., and the El Paso Electric Co., will serve the following defense installations:

1. Atomic Energy Commission installations at Los Alamos
2. Sandie Special Weapons Base (AEC)
3. Kirtland Airfield
4. White Sands Proving Ground
5. Holloman Air Force Base
6. Fort Bliss and Biggs Air Force Base

The present national emergency has increased the importance and need for additional power facilities for the entire area to insure a firm power supply for all of these defense installations. Power requirements for the defense installation involved must be assured and must be of sufficient quantity to meet needs if this portion of the national defense program is not to be jeopardized. The plan of the Plains Electric Generating Cooperative will meet such needs and supplement the power sources now in the area.

In addition to the requirements of direct defense installation set out above, these are also domestic and commercial power requirements associated with increased civilian activity in communities and towns adjacent to the defense installations, among which are the following:

1. Mica mines near Mora, N. Mex.
2. Pearlite development near Socorro, N. Mex.
3. Uranium deposits near Grants, N. Mex.

RELATION WITH PRIVATE UTILITIES IN THE AREA

The Public Service Co. of New Mexico is the only private utility operating in the area to be served by the joint Bureau-Plains cooperative system. The Public Service Co. has steam-electric generating plants at Albuquerque, Santa Fe, and Las Vegas, but because of rapid postwar load growth, the company has been and continues to be in critical need of additional power. To this end, the Public Service Co. now has a short term contract with the Bureau of Reclamation for surplus power from the utilities connected with the Elephant Butte system at other points.

The company has been contacted in regard to purchase of surplus power from the Espanola plant and was found to be very favorable to the plan. Attached to this report is a letter from Mr. Arthur Prager, president of the company, to the Bureau of Reclamation in which Mr. Prager approves the plan and agrees to purchase as much as 20,000 kilowatts of surplus power from the Espanola plant during its development period.

Since receiving the above letter, the Bureau has discussed this further with Mr. Prager. At that time, Mr. Prager agreed to purchase as much as 85,000,000 kilowatt-hours per year at Espanola plant generation from the Bureau at Albuquerque with a maximum demand of 15,000 kilowatts. Also the company desires to purchase power for its Las Vegas properties. Several plans to accomplish this were studied and it has been tentatively decided that Las Vegas would purchase power from the Bureau of Reclamation through the facilities of the Springer Electric and the Mora-San Miguel Electric Cooperatives. Purchase requirements for Las Vegas are estimated at from 3,280 kilowatts for 1950 (actual) to 6,000 kilowatts for 1960. It is understood, of course, that deliveries to the Public Service Co. of New Mexico are withdrawals to meet necessary loads of the cooperatives.

From the above, it may be concluded that the Bureau-Plains cooperative project has the full approval of all public and private interests in the area.

PLAN OF OPERATION

Schedule of sales.—It is planned to sell electric power and energy to the member cooperatives and to the Bureau of Reclamation. In a letter dated April 13, 1951, from Mr. H. E. Robbins, regional director, region 5, USBR,

the intent of the Bureau to purchase energy from this cooperative is clearly outlined. This letter is enclosed in the appendix of this report.

The total kilowatt-hour sales of energy from the steam plant are given in the following table:

TABLE V.—*Total kilowatt-hour sales from steam plant*

	Kilowatt-hours		
	1954	1957	1962
1. Bus bar sales to Bureau (including losses)	223, 650, 000	211, 000, 000	263, 550, 000
2. Sales to member cooperatives (excluding losses)	60, 098, 000	112, 301, 000	168, 287, 000
Total kilowatt-hour sales	283, 748, 000	323, 301, 000	431, 837, 000

COST OF GENERATION

The annual fixed costs of the steam plant, the fuel costs, and the total cost of generation for the years 1954, 1957, and 1962 are shown on the following table VI:

TABLE VI.—*Cost of generation*

Annual cost of plant operation	1954	1957	1962
Operation and maintenance	$130, 000	$133, 000	$140, 000
Miscellaneous material	105, 000	106, 000	110, 000
Other	30, 000	30, 000	30, 000
Taxes and insurance	90, 000	90, 000	100, 000
Interest	176, 000	176, 000	227, 000
Depreciation	200, 000	200, 000	260, 000
Administration and general	40, 000	42, 000	45, 000
Total fixed cost (subtotal No. 1)	771, 000	777, 000	912, 000
Fuel cost rate, mills per kilowatt-hour	(3. 25)	(3. 29)	(3. 41)
Gross generation, mills per kilowatt-hour per annum	(301, 088)	(345, 366)	(462, 252)
Fuel cost (subtotal No. 2)	980, 000	1, 135, 000	1, 574, 000
Total cost of generation (Nos. 1 and 2)	1, 751, 000	1, 912, 000	2, 486, 000
Average cost per kilowatt-hours generated (mills)	(5. 8)	(5. 6)	(5. 4)

COST OF POWER TO MEMBER COOPERATIVES

The estimated cost of distributing the energy generated by the Plains Electric Generating Cooperative, Inc., to the separate electric cooperatives is outlined below. These costs are based on the assumption that the cooperative pays rental in proportion to use of capacity of transmission lines and substations. The cost of the power has been taken to be the actual cost of operations less the sales to the Bureau of Reclamation.

TABLE VII.—*Cost of power to cooperatives*

	1954	1957	1962
1. Total cost of generation (table IV)	$1, 751, 000	$1, 912, 000	$2, 486, 000
2. Less revenue from sales to Bureau, at 5.25 mills per kilowatt-hour	$1, 125, 000	$1, 108, 000	$1, 375, 000
3. Cost of energy generated for cooperatives	$626, 000	$804, 000	$1, 111, 000
4. Average cost per kilowatt-hour. Energy for co-ops (without rental) mills	10. 4	7. 2	6. 6
5. Annual rental charge (see estimates of rental shown in exhibits)	($110, 500)	($161, 200)	($213, 100)
6. Average rental cost per kilowatt-hour delivered to cooperatives mills	1. 8	1. 4	1. 3
7. Total cost per kilowatt-hour delivered to cooperatives mills	12. 2	8. 6	7. 9

The foregoing calculations show the average cost kilowatt-hour in 1954 to be 12.2 mils. This figure appears to be relatively high compared to the 1957 and 1962 figures, the reason being that the loads of the member distribution cooperatives have not increased to meet the installed capacity in the plant because the power has not been available long enough for the loads to devlop.

As the sales increase, the cost of power to the cooperatives will decrease. The figures of 8.6 mills in 1957 and 7.9 mills in 1962 show this to be true. The 1962 figure of 7.9 mills compares favorably with the average cost of 7 mills for power purchased by REA-financed cooperatives in southern New Mexico from the Rio Grande project of the Bureau of Reclamation at the present time.

The economies of joint production, for the member cooperatives and the Bureau, at this plant should not be analyzed for one service, but for the whole output. Although the average cost of energy generated is from 5.8 mills per kilowatt-hour in 1954 to 5.4 mills per kilowatt-hour in 1962 and sales of surplus energy to the Bureau of Reclamation are at a rate below this (5.25 mills), these sales help reduce the cost of firm energy to the member cooperatives. When the off-peak capacity of the plant is used only small cost increments are incurred. By the Bureau of Reclamation purchasing this energy, a lower rate is thus afforded the member cooperatives. Earnings of the plan are increased because the increment in out-of-pocket costs is less than 5.25 mills, thus the marginal costs are lower for the surplus as compared with the base energy.

CONCLUSIONS

The area the Plains Electric Generating Cooperative proposes to serve is one of the most power-starved areas of the United States. Development of resources in this area should progress during the next decade or two and the power market will increase appreciably. Therefore, the power shortage will become even more acute. There is a definite need for an organization similar to this cooperative. Defense industries in this area make it particularly timely that such an organization be given impetus by the joint efforts of the Rural Electrification Administration and the Department of the Interior, Bureau of Reclamation.

The joint plan of the Plains Electric Generating Cooperative and the Bureau of Reclamation is one of solidified purpose, not unlike that of the East River Electric Power Cooperative (South Dakota, 43, Minnehaha) in South Dakota, and the Bureau of Reclamation. It is a plan to provide immediate relief and yet fit well into the future plans for development of the area. It presents the best means for the cooperatives to obtain the lowest cost firm energy that has been considered.

The Plains Electric Generating Cooperative should take immediate steps toward the establishment of a steam-electric generating plant in northern New Mexico. The Espanola location, described in this report, is the preferred site for this plant.

Transmission facilities to carry the power generated in the steam-electric plant of the Plains Electric Generating Cooperative should be constructed by the Department of the Interior, Bureau of Reclamation, to the load centers of the system described in this report and as illustrated in the attached map.

A leasing arrangement for the lines described in this report, and similar to that used by the Bureau of Reclamation in its contract with South Dakota, 43, Minnehaha, should be entered into.

RECOMMENDATIONS

(1) It is recommended that the Plains Electric Generating Cooperative request the Rural Electrification Administration to consider this feasibility study and that the cooperative request a loan in the amount of $10,297,000 from the Rural Electrification Administration for the purpose of financing the construction of the proposed plant.

(2) It is further recommended that the Plains Electric Generating Cooperative enter into a leasing arrangement for the necessary transmission lines and substations to carry power from the proposed plant to load centers in northern New Mexico.

Respectfully submitted.

FREESE & NICHOLS, *Engineers*,
TYNES & LOFTIN, *Engineers*,
By REX A. TYNES.

System designation: New Mexico 11 Taos

Type of consumer	1954	1957	1962
Farm:			
Number of consumers	1,000	1,300	1,430
Annual consumption, thousands of kilowatt-hours	960	2,340	3,003
Peak demand	350	786	987
Nonfarm:			
Number of consumers	2,900	4,000	4,400
Annual consumption, thousands of kilowatt-hours	3,132	6,000	7,920
Peak demand	1,140	2,080	2,662
Small commercial:			
Number of consumers	600	700	750
Annual consumption, thousands of kilowatt-hours	3,600	5,880	8,100
Peak demand	1,075	1,728	2,175
Other:			
Number of consumers	5	16	21
Annual consumption, thousands of kilowatt-hours	1,300	4,625	6,135
Peak demand	620	2,275	3,025
Irrigation:			
Number of pumps	0	20	30
Annual consumption, thousands of kilowatt-hours	0	300	450
Peak demand	0	400	600
Total:			
Number of consumers	4,505	6,036	6,631
Annual consumption, thousands of kilowatt-hours	8,992	19,145	25,608
Distribution losses, percent	23	18	15
Distribution losses, thousands of kilowatt-hours	2,248	4,202	4,519
Thousands of kilowatt-hours at substation	11,240	23,347	30,127
Peak demand, kilowatts	3,185	7,269	9,449

System designation: New Mexico 14 Mora

Type of consumer	1952	1955	1960
Farm:			
Number of consumers	1,088	1,538	2,288
Annual consumption thousands of kilowatt-hours	979	1,846	4,118
Peak demand	358	671	1,384
Nonfarm:			
Number of consumers	613	823	1,373
Annual consumption thousands of kilowatt-hours	552	889	2,060
Peak demand	202	324	714
Small commercial:			
Number of consumers	238	313	438
Annual consumption thousands of kilowatt-hours	571	939	1,577
Peak demand	184	296	488
Total:			
Number of consumers	1,939	2,674	4,099
Annual consumption thousands of kilowatt-hours	2,102	3,673	7,755
Distribution losses, percent	22	20	18
Distribution losses, thousands of kilowatt-hours	593	918	1,702
Thousands of kilowatt-hours at substation	2,695	4,592	9,457
Peak demand, kilowatts	744	1,291	2,586

System designation: New Mexico 15 Rio Arriba

Type of consumer	1954	1957	1962
Farm:			
Number of consumers	182	250	350
Annual consumption, thousands of kilowatt-hours	273	700	1,400
Peak demand	97	228	437
Nonfarm:			
Number of consumers	534	800	1,200
Annual consumption, thousands of kilowatt-hours	641	1,440	2,880
Peak demand	238	484	929
Small commercial:			
Number of consumers	180	250	310
Annual consumption, thousands of kilowatt-hours	432	1,200	1,860
Peak demand	142	363	555
Large commercial:			
Number of consumers	17	85	110
Annual consumption, thousands of kilowatt-hours	82	510	1,320
Peak demand	25	152	330
Total:			
Number of consumers	913	1,385	1,970
Annual consumption, thousands of kilowatt-hours	1,427	3,850	7,460
Distribution losses, percent	25	22	20
Distribution losses, thousands of kilowatt-hours	476	1,086	1,865
Thousands of kilowatt-hours at substation	1,903	4,936	9,325
Peak demand, kilowatts	52	1,227	2,251

System designation: New Mexico 19 Colfax

Type of consumer	1954	1957	1962
Farm:			
Number of consumers	946	1,066	1,116
Annual consumption, thousands of kilowatt-hours	2,270	3,198	5,357
Peak demand	732	1,006	1,620
Nonfarm:			
Number of consumers	551	981	1,011
Annual consumption, thousands of kilowatt-hours	595	1,766	2,426
Peak demand	217	594	783
Small commercial:			
Number of consumers	280	325	375
Annual consumption, thousands of kilowatt-hours	1,008	1,560	2,250
Peak demand	312	472	672
Other:			
Number of consumers	9	25	35
Annual consumption, thousands of kilowatt-hours	356	3,995	4,010
Peak demand	85	829	839
Total:			
Number of consumers	1,786	2,397	2,537
Annual consumption, thousands of kilowatt-hours	4,229	10,518	14,043
Distribution losses, percent	25	22	20
Distribution losses, thousands of kilowatt-hours	1,410	2,967	3,511
Thousands of kilowatt-hours at substation	5,639	13,485	17,553
Peak demand, kilowatt-hours	1,346	2,901	3,914

System designation: New Mexico 22 McKinley

Type of consumer	1954	1957	1962
Farm:			
Number of consumers	800	1,000	1,300
Annual consumption thousands of kilowatt-hours	1,920	3,000	4,680
Peak demand	619	944	1,447
Nonfarm:			
Number of consumers	900	1,890	2,190
Annual consumption, thousands of kilowatt-hours	1,350	3,402	5,256
Peak demand	468	1,143	1,695
Small commercial:			
Number of consumers	400	475	650
Annual consumption, thousands of kilowatt-hours	2,880	4,560	7,800
Peak demand	852	1,334	1,950
Industrial:			
Number of consumers	60	75	90
Annual consumption, thousands of kilowatt-hours	1,728	2,700	3,600
Peak demand	420	525	630
Irrigation:			
Number of pumps	25	35	50
Annual consumption, thousands of kilowatt-hours	3,300	5,460	9,000
Peak demand	2,250	3,150	4,500
Total:			
Number of consumers	2,185	3,475	4,280
Annual consumption, thousands of kilowatt-hours	11,178	19,122	30,336
Distribution losses, percent	25	22	20
Distribution losses, thousands of kilowatt-hours	3,726	5,393	7,584
Thousands of kilowatt-hours at substation	14,904	24,515	37,920
Peak demand, kilowatts	4,609	7,096	10,222

System designation: New Mexico 28 Sandoval

Type of consumer	1954	1957	1962
Farm:			
Number of consumers	1,648	2,300	3,100
Annual consumption, thousands of kilowatt-hours	1,978	5,520	9,300
Peak demand	719	1,780	2,926
Nonfarm:			
Number of consumers	2,400	3,350	4,200
Annual consumption, thousands of kilowatt-hours	3,600	7,035	11,340
Peak demand	1,248	2,312	3,608
Small commercial:			
Number of consumers	512	600	700
Annual consumption, thousands of kilowatt-hours	2,611	4,320	6,720
Peak demand	787	1,278	1,966
Other:			
Number of consumers	2	2	2
Annual consumption, thousands of kilowatt-hours	39	39	39
Peak demand	22	22	22
Total:			
Number of consumers	4,562	6,252	8,002
Annual consumption, thousands of kilowatt-hours	8,228	16,914	27,399
Distribution losses, percent	25	20	18
Distribution losses, thousands of kilowatt-hours	2,743	4,229	6,014
Thousands of kilowatt-hours at substation	10,970	21,142	33,413
Peak demand, kilowatts	2,776	5,392	8,522

System designation: Colorado 14 Alamosa [1]

	1954	1957	1962
Total:			
Thousands of kilowatt-hours at substation	12,747	20,284	30,492
Peak demand, kilowatts	4,380	6,550	9,250

[1] Loads estimated by cooperative officials and engineers.

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION, REGION 5,
Amarillo, Tex., April 13, 1951.

Subject: New Mexico 18 Plains, Plains Electric Generating Cooperative, Inc.

Mr. ASHLEY D. LOFTIN,
Tynes & Loftin, Korber Building, Albuquerque, N. Mex.

DEAR MR. LOFTIN: In response to your recent requests by telephone and conference for revised data for inclusion in your report on the above project, the following data are transmitted herewith:

1. A map showing location of Bureau advance construction of transmission lines and substations.
2. Tabulation of revised costs of the lines and substations.
3. Schedule of construction.
4. Tabulation, "Estimated potential market for Rio Grande system power."
5. Sample computation showing method of determining annual rental on advance construction facilities.

The costs for transmission lines and substations were obtained from the Bureau's chief engineer, Denver, Colo., and were used by this office in documentary material submitted to Washington for authorization and request for appropriations. There has been included only those facilities which are presently required for power execution of the plan proposed by the Plains Electric Generating Cooperative, Inc.

The schedule of construction anticipates that construction will start by May 1952 and that all features will be completed by July of 1953 concurrently with completion of the Espanola steam-electric generating plant; also, that the lines and substations will be energized and first energy sales made to the Plains Electric Generating Cooperative and its distribution cooperatives in July of 1953.

A sample computation of the rental charge is included and is intended to demonstrate the method of computing the rental charge. The rental estimate is based on current cost of operating and maintaining the Government's facilities, the estimated cost of these facilities, and your estimate of the load requirements. The actual compensation to the Government, after the plan is placed in operation, will be based on actual costs and actual loads.

The tabulation, "Estimated potential market for Rio Grande system power," shows, by years from 1952 to 1962, the sources of energy to the Bureau and the distribution of energy sales on the Bureau system. The last column indicates the additional energy necessary for Bureau use. Justification for purchase of this energy by the Bureau is based on obtaining the energy at a rate not to exceed 5.25 mills at the bus bar for the period to 1962.

The effect of Elephant Butte hydroelectric generation on energy purchases from the Espanola plant is explained as follows:

A 27,000-kilovolt-ampere hydroplant was installed at Elephant Butte in 1940, capable of an estimated annual production of 100,000,000 kilowatt-hours. Initial power production at Elephant Butte started in 1940, with 1941 being the first full year of production. Net generation at Elephant Butte for years 1941 through 1950 was as follows:

	Kilowatt-hours		*Kilowatt-hours*
1941	100,028,000	1947	51,456,000
1942	136,177,000	1948	79,693,000
1943	116,382,000	1949	80,269,000
1944	121,494,000	1950	80,042,000
1945	116,242,000	1951 (estimated)	45,000,000
1946	99,488,000		

In addition to above Elephant Butte hydro generation, the Bureau has purchased the following amounts of energy to firm up and supplement the Elephant Butte hydro generation:

	Kilowatt-hours
1950	16,121,000
1951 (estimated)	124,000,000

The minimum annual compensation to suppliers of purchased energy involves the taking of not less than approximately 50,000,000 kilowatt-hours through calendar year 1956.

If the Espanola plant is constructed by Plains Cooperative, the Bureau proposes to purchase such energy as is available and which can be diverted and marketed to customers of the United States. The energy to be purchased from Plains Cooperative will be (1) energy to supply additional loads of the United States acquired in connection with the advance construction of transmission lines for the use of Plains Cooperative; and (2) energy required on the existing Rio Grande project power system not available from hydroelectric generation and not supplied under minimum-purchase agreements with others.

If additional information is required, please feel free to call upon us.

Very truly yours,

H. E. ROBBINS, *Regional Director.*

Description of facilities and estimate of costs

TRANSMISSION LINES

Designation	Length, miles	Estimated cost
Espanola–Albuquerque	85	$1,136,000
Albuquerque–Grants	68	963,000
Espanola–Taos	42	586,000
Taos–Springer	64	1,038,000
Taos–Monte Vista	103	1,404,000
Total	362	5,127,000

Average cost per mile, $14,160.

SUBSTATIONS

Location	Voltage kilowatts	Capacity, kilovolt-amperes	Estimated cost
Grants	115–24.9/14.4	12,000	$225,000
Taos	115–24.9/14.4	10,000	460,000
Springer	115–69	15,000	290,000
Monte Vista	115–69	10,000	324,000
Albuquerque Southwest station			500,000
Communications and control			40,000
Total		47,000	1,839,000

All transmission lines are planned to be of wood pole, H-frame construction, with 397,500 circular mil ACSR conductors, and two overhead shield wires.

All substations are considered to be permanent type steel structures with one three-phase transformer and necessary high- and low-voltage switching and protective equipment. The switching station at Albuquerque and the carrier current communication and control equipment is required for the system, and the total cost of these items is prorated by percentage of line use in the same manner as the cost of substations and transmission lines.

SCHEDULE OF CONSTRUCTION

The present program of construction for the transmission lines and substations, included in the advance construction for REA use, indicates that major contract work will begin about the 1st of May 1952 and will be complete in July 1953. The program is set up so that construction of the lines and substations will be completed and ready for use concurrently with completion of the Espanola steam-electric generating plant.

Estimated potential market for Rio Grande system power

[Millions of kilowatt-hours]

Year	Energy required for sales						Energy sources		Additional purchases necessary
	Rio Grande project firm W/o Albuquerque	Sales to—			Special contracts (El Paso-CPS)	Total	Elephant Butte generation	Minimum purchases from other sources	
		Albuquerque	Las Vegas	Dawson					
1952	97	40	----------	----------	60	197	100	36	61
1953	108	67	----------	----------	60	235	100	49	86
1954	120	150	12	21	60	363	100	50	213
1955	130	150	13	21	60	374	100	50	224
1956	136	150	15	21	60	382	100	51	231
1957	143	150	16	21	60	390	100	52	238
1958	150	150	18	21	60	399	100	----------	299
1959	157	150	20	21	60	408	100	----------	308
1960	163	150	22	21	60	416	100	----------	316
1961	163	150	22	21	60	416	100	----------	316
1962	163	150	22	21	(1)	356	100	----------	256

[1] Contracts expire.

COMPENSATION TO THE UNITED STATES FROM PLAINS ELECTRIC GENERATING COOPERATIVE, INC., FOR USE OF ADVANCE TRANSMISSION FACILITIES

I. Facilities to be constructed by the United States (based on recent estimates by Bureau's chief engineer)

(*a*) 115-kilowatt-wood pole H–frame transmission lines 397.5 MCM ACSR conductor and overhead ground wires.

From—	To—	Miles
Espanola plant	Albuquerque	85
Albuquerque	Grants	68
Espanola plant	Taos	42
Taos	Springer	64
Do	Monte Vista	103
Total		362

(*b*) 115-kilovolt substation, 3-phase transformers:

	Voltage, kilovolts	Capacity, kilovolt-amperes
Grants	115-24.9/14.4	12,000
Taos	115-24.9/14.4	10,000
Springer	115-69	15,000
Monte Vista	115-69	10,000
Total		47,000

II. Plains Electric Generating Cooperative Loads on Facilities of United States

(*a*) Assume 80 percent diversity factor applied to noncoincidental peaks; assume 78 percent diversity factor applied to peak-month coincidental demand; total cumulative diversity factor=0.80×0.78=62½ percent.

(*b*) Estimated Plains Electric Generating Cooperative loads on facilities of United States from estimated noncoincidental member cooperative loads.

	Noncoincidental peak (peak month) kilowatts	Diversity factor	Estimated coincidental average monthly demand
Initial year	17,542	0.625	10,946
Fifth year	31,726	.625	19,797
Tenth year	46,194	.625	28,825

III. Operation and maintenance, reserve for replacement and amortization (3 percent interest, 50 years)

(*a*) Annual operation and maintenance factors used by Bureau:

1. 115 kv, wood pole, H-frame, single-circuit transmission line—$102/mi/yr =$8.50/mi/mo
2. Substations, planned capacity=$0.23/kva/yr=$0.02/kva/mo.

(*b*) Replacement reserve factors used by Bureau, based on expected life:

1. Transmission lines=.01027
   Annual accrual=investment×.01027
2. Substations=.015291
   Annual accrual=investment×.015291

(*c*) Amortization factor based on 50 years and 3 percent return on investment =.0388655

Annual accrual=investment×.0388655

IV. The rental formula

The plan proposed by the Bureau and accepted by the Plains Electric Generating Cooperative, Inc., for compensating the Government for constructing transmission facilities in advance of its own needs, provides that during this interim period, the Plains Cooperative will pay all out-of-pocket costs which includes (1) all operation and maintenance costs on the substations and transmission lines, and (2) the proportionate share of amortization of investment and replacement reserve accrual costs. This agreement is similar to that used in the existing contract between the Bureau of Reclamation and the East River Electric Power Cooperative in North Dakota.

The formula, in the East River contract, for computing rentals, or compensation to the Government, has been adopted for application to this plan, and is as follows:

$$\text{Monthly compensation}=A_1+\tfrac{1}{12}\times\frac{.0491355\ T\ L_1}{90{,}000}+A_2+\tfrac{1}{12}\times\frac{.0541565\ S\ L_2}{C}$$

Where A_1=Transmission line operation and maintenance expenses=$8.50 per mile of 115-kilovolt transmission line construction.

T =Total actual cost to the United States of the transmission lines.

L_1=Use of transmission line capacity=maximum monthly simultaneous thirty (30) minutes integrated power input in kilowatts by the Plains Cooperative into the transmission system of the United States in the month. 90,000=kilowatt capacity of transmission system, advance construction, extending from the Espanola Power Plant.

A_2=Substation operation and maintenance expenses=$0.02 per kilovolt-ampere and total capacity installed in substations of the United States used by Plains Cooperative.

S =Total actual cost to the United States of substations used by Plains Cooperative.

C =Rated planned capacity at ninety percent (90%) power factor of transformers in substations of the United States used by Plains Cooperative.

L_2=Use of substation capacity=sum of maximum noncoincidential thirty (30) minutes integrated power deliveries in kilowatts by the Plains Cooperative to its member cooperatives in the month through substations of the United States.

V. Application of the formula

Although the formula is set up for computation of rental on a monthly basis, for purposes of this example, the annual rental will be computed. The sample computation which follows is based on current estimates of cost and on annual operation and maintenance charges as of 1950. It is not intended herein to reflect the compensation which would be payable to the Government under conditions existing in 1952 or later.

Initial year: 17,542 kw demand (noncoincidental)
47,000 kva substation capacity

$$\text{Annual rental}=A_1+\frac{.0491355\ T\ L_1}{90{,}000}+A_2+\frac{.0541565\ S\ L_2}{C}$$

A_1=Line C. & M.=$102×362=$36,900.
T_1=Cost of lines=$5,127,000 (attached tabulation).
L_1=17,542 kw×62½%=10,946 kw.
A_2=Substation O. & M.=$0.23×47,000=$10,800.
S =Cost of substations=$1,839,000 (Attached tabulation).
L_2=17,542×78%=13,700 kw.
C =47,000×99%=42,300 kva.

$$\left(\$36{,}900+\frac{.049135}{90{,}000}\times\$5{,}127{,}000\times10{,}946\right)=\$36{,}900+\$30{,}600=\$67{,}500$$

$$\text{plus}\left(\$10{,}800+\frac{.0541565}{90{,}000}\times\$1{,}839{,}000\times13{,}700\right)=\$10{,}800+\$32{,}200=\$43{,}000$$

Estimated annual rental initial year------ $110,500

Using the same assumptions, the estimated annual rental for the fifth and tenth years would be $161,200 and $213,100, respectively.

Fuel cost calculations

1954:
301,088,000 KWH gross generation
Fuel rate—13,500 BTU/KWH
At 1,000 BTU per cu. ft. the annual requirement is 13.5×301,088,000 or 4,060,000 M. C. F.
This is an average of 337,000 M. C. F./mo.
Cost:
1st 300,000 M. C. F. @ 25¢=$75,000.00
Next 37,000 M. C. F. @ 18¢= 6,660.00
Total---------- 81,660.00
This is an average of 24.2¢/cu. ft.
Cost per KWH=3.25 mills

1957:
345,366,000 KWH gross generation
13.5×345,366,000 or 4,650,000 M. C. F., annual requirement
This is an average of 387,000 M. F. C./mo.
Cost:
1st 300,000 M. C. F. @ 26¢=$78,000.00
Next 87,000 M. C. F. @ 19¢= 16,550.00
Total---------- 94,550.00
This is an average of 24.5¢/cu. ft.
Cost per KWH=3.29 mills

1962:
462,252,000 KWH gross generation
13.4×462,252,000 or 6,230,000 M. C. F., annual requirement
This is an average of 519,000 M. C. F./mo.
Cost:

1st	390,000 M. C. F. @ 27¢=	$105,400.00
Next	129,000 M. C. F. @ 20¢=	25,800.00
Total		131,200.00

This is an average of 25.3¢/cu. ft.
Cost per KWH=3.41 mills

PUBLIC SERVICE CO. OF NEW MEXICO,
Albuquerque, N. Mex., January 12, 1951.

(Attention: Mr. A. H. Sullivan, regional power manager.)

Mr. H. E. ROBBINS,
Regional Director, Bureau of Reclamation,
Box 1609, Amarillo, Tex.

DEAR MR. ROBBINS: We have discussed in considerable detail with your representatives, Mr. A. H. Sullivan and Mr. A. P. Jones, proposed plans for the construction of an REA steam plant by the Plains Electric Generating Cooperative in the vicinity of Espanola, N. Mex., and of the necessary transmission lines by the Bureau of Reclamation for the delivery of this electric power and energy to the load centers in New Mexico, including the Albuquerque and Las Vegas districts.

We are definitely interested in this project, if satisfactory arrangements can be made for us to purchase electric power and energy at the earliest possible date. Our company will require approximately 20,000 kilowatts of additional capacity for the Albuquerque and Las Vegas districts within the next 2 years. We now have on order a new 20,000-kilowatt steam plant to be constructed and placed in operation by October 1952, and if we can be assured of securing this additional capacity from the Bureau of Reclamation, backed up by the REA steam plant at Espanola, it will not be necessary for us to order another unit to be installed in this new proposed plant.

At the present time this company has a contract with the Bureau of Reclamation for 15,000 kilowatts of capacity from the South, which is dependent upon a single transmission line interconnection. This proposed plant, line, and connection from the North makes it possible for us to receive firm power and energy, thus providing the necessary continuity of service which is important to the Albuquerque area. We are supplying electric power and energy to the Atomic Energy Commission at Sandia Base and Kirtland Field, including residential and incidental requirements of employees of these installations.

Public Service Co. of New Mexico is very much interested in securing a block of power for Las Vegas, N. Mex., within the next 2 years, and if this power is available we will be able to defer the installation of additional generating capacity, as we firmly believe from the economic standpoint it is more desirable to purchase power from the Reclamation Bureau under this proposed project.

We believe this entire project is very desirable for the State of New Mexico and will enable both private and governmental-owned utilities to operate in close harmony, assuring immediate service for the State with the ultimate result that when the Bureau of Reclamation hydro power development has been completed the proposed investment in transmission lines will be fully utilized with the integrated system and assure ample quantities of power.

Our interest in this project is, of course, contingent upon the assumption that means will be found by which we may be assured of blocks of power for a relatively long period of time.

This letter is for the purpose of indicating to you our support of the steam plant and transmission lines, based upon our understanding as outlined herein. Under these circumstances you may rest assured that our company will do everything within its power to assist you and the REA to see that this project is authorized and completed at the earliest possible date.

Very truly yours,

ARTHUR PRAGER, *President.*

PUBLIC SERVICE CO. OF NEW MEXICO,
Albuquerque, N. Mex., January 22, 1951.

Mr. REX A. TYNES,
345 Korber Building, Albuquerque, N. Mex.

DEAR MR. TYNES: Confirming our telephone conversation of January 20, 1951, in connection with the estimated Las Vegas loads with relation to your study for that area, I wish to submit the following:

Year	Annual kilowatt-hours distribution	Hourly peak kilowatts
1950 (actual)	11,380,330	3,280
1951	14,500,000	3,300
1952	15,800,000	3,600
1955	17,500,000	4,000
1960	26,300,000	6,000

We hope this will give the information necessary to complete your study.
Yours very truly,

F. J. TAYLOR,
Budget Director.

TABLE A.—*Construction cost estimate, power plant at Espanola*

POWER PLANT

Item	Description	Unit cost of material (1)	Total cost of material (2)	Erection cost and profit (3)	Total cost (4)
(a)	3 15,000-kilowatt turbo generators, hydrogen cooled, 13.8-kilovolt 85 percent power factor, 850 pounds, 900 F. T. T.	$523,333	$1,570,000	$25,000	$1,595,000
(b)	3 condensers with ejectors, jets, condensate pumps, circulation pumps	Lot	378,800	16,200	395,000
(c)	3 150,000-pound-per-hour boilers, F. and I. D., gas and oil fired, water walls, S. H. control, refractories stack, fans, drives, 850 pounds, 900°	Lot	841,000	284,000	1,125,000
(d)	Combustion control equipment	Lot	36,000	9,000	45,000
(e)	3 boiler feed water pumps and meters, 900 pounds net discharge, 250 gallons per minute, alley case and trim.	68,910	206,730	3,000	209,730
(f)	Boiler feed water heaters, 2 deaerating, 9 closed	Lot	68,000	6,800	74,800
(g)	Steam piping and insulation	Lot	405,000	385,000	790,000
(h)	Plumbing	Lot	5,000	5,000	10,000
(i)	Heating	Lot	2,500	2,500	5,000
(j)	Water gathering system	Lot	6,000	6,000	12,000
(k)	Water wells and pumps (3)	9,500	28,500	1,500	30,000
(l)	Cooling towers with induced fans and drives	Lot	215,100	23,900	239,000
(m)	Circulating water piping	Lot	22,500	22,500	45,000
(n)	Pumps (miscellaneous):				
	2, treated water	600	1,200	120	1,320
	2, raw water	600	1,200	120	1,320
	1, fire	4,000	4,000	400	4,400
	2, chemical	600	1,200	120	1,320
	3, fuel oil and heaters	5,511	16,533	Included	16,533
(o)	Tanks:				
	1, raw water	7,500	7,500	Included	7,500
	3, condensate	2,000	6,000	Included	6,000
	1, treated water	7,500	7,500	Included	7,500
	1, blow down	2,000	2,000	Included	2,000
	1, drips	1,000	1,000	Included	1,000
	1, fuel oil	30,000	30,000	Included	30,000
(p)	Air compressors, utility and instrument (2)	2,500	5,000	500	5,500
(q)	Boiler feed water treatment	Lot	45,000	5,000	50,000
(r)	Water treatment and chemical storage building and furniture	Lot	7,500	2,500	10,000
(s)	Main building and foundation, structural steel, siding, brick trim, craneway 75 feet by 180 feet at $11 per square foot		190,000	Inc.	190,000
(t)	Crane, 50 ton		25,000	2,500	27,500
(u)	Instrument and controls	Lot	46,800	5,200	52,000

TABLE A.—*Construction cost estimate, power plant at Espanola*—Continued

POWER PLANT—Continued

Item	Description	Unit cost of material (1)	Total cost of material (2)	Erection cost and profit (3)	Total cost (4)
(*v*)	Tools	Lot	5,000	Inc.	5,000
(*w*)	Furniture and fixtures	Lot	3,000	Inc.	3,000
(*x*)	Site preparation			5,000	5,000
(*y*)	Shop and warehouse		7,500	2,500	10,000
(*z*)	Heavy hauling			50,000	50,000
(*aa*)	Pipe supports, stairs, and gratings		5,000	3,750	8,750
(*bb*)	Equipment foundations:				
	3 turbines			40,000	40,000
	3 boilers			61,000	61,000
	11 cooling towers			32,400	32,400
	Miscellaneous equipment			10,000	10,000
(*cc*)	Control switchgear, load centers, power wiring		150,000	135,000	285,000
	Subtotal No. 1		4,353,063	1,146,510	5,499,573
(*dd*)	Contingencies (10 percent of column 3, subtotal 1)			114,651	114,651
(*ee*)	Escalation (10 percent of column 2, subtotal 1)		435,306		435,306
	Subtotal No. 2		4,788,369	1,261,161	6,049,530
(*ff*)	Contractor's expense, mobilization (8 percent of column 3, subtotal 2)			100,669	100,669
	Subtotal No. 3		4,788,369	1,361,830	6,150,199
(*gg*)	Engineering, legal, interest during construction, overhead (15 percent of column 4)			922,530	922,530
	Total, plant only		4,788,369	2,284,360	7,072,729
	7,072,729÷45,000=$157 per kilowatt.				
	Installation of fourth unit, 30 percent of total, column 4				2,121,819
	Grand total (plant only)				9,194,548
	9,194,548÷60,000=$154 per kilowatt.				

SUBSTATION

(*a*)	3 power transformers, 13.8-kilovolt Delta to 115-kilovolt 3-phase, grounded wye, 18,750 kilovolt-amperes	$80,320	$240,960	$24,096	$265,056
(*b*)	3 station service 3-phase transformers, 13.8-kilovolt Delta to 2.4-kilovolt Delta, 1,500 kilovolt-amperes	8,042	24,126	2,413	26,539
(*c*)	1 station service transformer, 115-kilovolt Wye to to 69-kilovolt Wye and 2,400-volt Delta, 12,000 kilovolt-amperes, 3-phase	123,500	123,500	12,350	135,850
(*d*)	5 115-kilovolt type GM-3 oil circuit breakers, 800 amperes, 1.5 million kilovolt-amperes, equipped with pneumatic operators	30,000	150,000	6,000	156,000
(*e*)	1 69-kilovolt and 1 2.4-kilovolt oil circuit breaker	Lot	20,000	3,000	23,000
(*f*)	1 steel structure for mounting all disconnects and breakers, includes cost of disconnects	do	50,000	10,000	60,000
	Subtotal No. 1		608,586	57,859	666,445
(*g*)	Contingencies (10 percent of column 3, subtotal 1)			5,786	5,786
(*h*)	Escalation (10 percent of column 2, subtotal 1)		60,859		60,859
	Subtotal No. 2		669,445	63,645	733,090
(*i*)	Contractors expense:				
	Mobilization (5 percent of column 3, subtotal 2)			3,182	3,182
	Office and stores			1,000	1,000
	Bond (1 percent of column 3, subtotal 2)			636	636
	Subtotal No. 3		669,445	68,463	737,908

TABLE A.—*Construction cost estimate, power plant at Espanola*—Continued

SUBSTATION—Continued

Item	Description	Unit cost of material (1)	Total cost of material (2)	Erection cost and profit (3)	Total cost (4)
(j)	Engineering and legal, and interest during construction overhead (15 percent of column 4, subtotal 3)			110,686	110,686
	Total, substation only		669,445	179,149	848,594
	Average cost per KVA=$848,594/56,250=approximately $15 of main substation capacity.				
	Installation of fourth unit (30 percent of total column 4)				254,580
	Total				1,103,174
	Grand total, plant and substation (1954)				7,921,323
	Grand total (1962)				10,297,722

SUMMARY

[On kilowatt basis]

Plant and substation (1954), approximate	=$172
Plant and substation (1962), approximate	=169

STATEMENT OF NORTON DAVIS, SECRETARY-TREASURER, PLAINS ELECTRIC GENERATING COOPERATIVE, INC.

My name is Norton Davis and I am secretary-treasurer of the Plains Electric Generating Cooperative, Inc., the cooperative which proposes to construct a steam generating plant. I am also manager of the Springer Electric Cooperative, Inc., of Springer, N. Mex., one of the seven distribution cooperatives which will obtain their power from the Plains Cooperative if it is built.

I should first like to point out the emergency nature of our present request. We have, of course, known of our dangerous power supply situation for some time, but we have not been able to take any definite steps to solve it until now. We felt that we could not come before a congressional committee without first making certain that all other matters were taken care of as far as possible. We had to hold lengthy conferences with the Bureau of Reclamation to make certain that our plan would meet with their approval. We also had to develop the necessary information and data so that the Rural Electrification Administration could determine whether a loan could be made to us for the generating plant, granted that the Bureau would be given the moneys with which to build their transmission lines. And we also had to make certain that we would have a satisfactory fuel supply. For these reasons, despite the desperate situation in which we found ourselves with regard to our power needs, we were not able to present our request prior to this time. We now know that we can obtain the gas which we need for fuel; that the Bureau of Reclamation approves of our plan; and that the REA is ready to make a loan to us for the generating plant if the Bureau is granted the moneys for the construction of the transmission lines.

We sincerely hope that your committee will therefore not penalize us because of our inability to present this matter to the House Appropriations Committee in the first instance. Our need is desperate. The solution must be found now. We believe that the only solution is the one which we are now proposing. We, therefore, earnestly urge that your committee consider our case on the merits—we are certain that you will then agree with the necessity and the reasonableness of our proposal.

DEPARTMENT OF AGRICULTURE,
RURAL ELECTRIFICATION ADMINISTRATION,
Washington, D. C., February 20, 1951.

Mr. GAYLORD A. BURT,
President, Plains Electric Generating Cooperative,
Springer, N. Mex.

DEAR MR. BURT: We have reviewed the proposed plan submitted by your engineers, Tynes & Loftin and Freese & Nichols, to provide electric service to the following six cooperatives in northern New Mexico and one in southern Colorado; Kit Carson Electric Cooperative, Inc., Taos; Mora-San Miguel Electric Cooperative, Inc., Mora; Rio-Arriba Electric Cooperative, Inc., Chama; Springer Electric Cooperative, Inc., Springer; Continental Divide Electric Cooperative, Inc., Grants; Jemez Mountains Electric Cooperative, Inc., Espanola; San Luis Valley Rural Electric Cooperative, Monte Vista, Colo. The proposed plan is understood to consist of the following:

1. The construction by the Bureau of Reclamation of approximately 362 miles of high-voltage transmission lines and related substations to be built from funds appropriated by Congress for the fiscal year 1952.

2. A proposed loan by REA to the Plains Electric Generating Cooperative in the amount of approximately $9,000,000 for the construction of a gas-fired steam plant consisting of three 15,000 kilowatt turbine units to be located in the vicinity of Espanola, N. Mex., such plant being required to serve the firm power requirements of the member cooperatives.

3. A license granted by the Bureau to Plains Electric Generating Cooperative to use the transmission system when constructed upon payment by Plains of an annual rental charge estimated to range from approximately $145,000 in 1955 to $192,000 in 1960. Such rental charge shall be based upon Plains' use of the line and substation capacity with the Bureau performing the operation and maintenance of the transmission system. The license will continue in effect until power is available from hydroelectric projects in Colorado planned by the Bureau.

Thereafter, the Bureau will assure Plains of a means of delivering the output of the plant to the member cooperatives for the remainder of the 35-year term of the loan.

4. Sale to the Bureau by Plains of approximately 140,000,000 kilowatt-hours annually which may be available at times when not required by Plains for its member cooperatives, such surplus energy to be sold on and if-as-and-when-available basis at a rate of 5.25 mills per kwh based on fuel costing 20 cents per million b.t.u. at the generating plant. The Bureau will resell such surplus energy to the Public Service Co. of New Mexico and the Frontier Power Co.

5. A cost of power to the seven member cooperatives averaging approximately 8 mills per kilowatt-hour delilivered when using fuel at a cost of 20 cents per million b.t.u. This excludes the fixed charges on the existing small generating plants owned by some of the member cooperatives which would be retired, salvaged, or used for stand-by when the steam plant was completed. If these charges were added in, it would raise the cost to an average of approximately 8.6 mills in 1955 and 8.4 mills in 1960.

Our review of the proposed plan indicates that (1) it will alleviate a serious shortage of power facilities existing in the area which is expected to become more serious prior to the availability of power from the Bureau's proposed hydro projects in Colorado, and (2) it will result in substantial savings in power cost.

1. The Mora-San Miguel Electric Cooperative is purchasing power from the Public Service Co. of New Mexico at 14 mills per kilowatt-hour and we understand that this cost may be increased. In a letter to the Bureau of Reclamation, the company states that it is very much in favor of Plains' plan and it would like to purchase 20,000 kilowatt if this much can be obtained as surplus from the proposed plant.

2. The San Luis Valley Rural Electric Cooperative is purchasing power from the Public Service Co. of Colorado at 14 mills per kilowatt-hour.

3. The Kit Carson Electric Cooperative is generating its own requirements in a small Diesel plant at a cost of almost 2 cents per kilowatt-hour, 9 mills of which is for fuel alone.

4. The Springer Electric Cooperative acquired an old steam generating plant from the Frontier Power Co. and is generating its requirements at approximately 1.5 cents per kilowatt-hour. It is contemplated that this plant will be of service only until 1956.

5. The Continental Divide Electric Cooperative is generating its own requirements in a small Diesel plant at a cost of about 1.5 cents per kilowatt-hour, 8.5 mills of which is for fuel alone.

6. The Jemez Mountains Electric Cooperative is generating its own requirements at a cost of over 2.5 cents per kilowatt-hour, 8.5 mills of which is for fuel alone.

7. The Rio Arriba Electric Cooperative is a new organization to be served by the Jemez Mountains Electric Cooperative via a transmission line to be built from Espanola.

It is our understanding that if the loan is not made to the Plains Cooperative, individual loans to the member cooperatives would be necessary to increase the size of their generating plants to keep up with their ever increasing loads.

Time has not permitted, as yet, the completion of the engineering and financial studies requisite to final approval of a loan for the construction of the proposed plant. Similarly, there has not, as yet, been a definitive examination of the legal aspects of the loan proposal by the Solicitor's office and such examination must necessarily await full crystallization of the loan proposal. However, our studies to date indicate that we shall be able to give favorable consideration to your application for a loan to construct the generating plant to be used as outlined above; provided, that (1) the Bureau of Reclamation is able to proceed with construction of the transmission system in the immediate future, (2) a satisfactory contract for the purchase of gas is entered into by Plains at a cost of approximately 20 cents per million B. t. u., (3) satisfactory 35-year power contracts are executed with each of the seven member cooperatives, and (4) a satisfactory agreement is entered into with the Bureau of Reclamation which will specifically provide among other things that your cooperative may use the transmission lines constructed by the Bureau for a period of 35 years to deliver power from the plant to the member cooperatives.

Sincerely,

CLAUDE R. WICKARD,
Administrator.

THE NEW MEXICO POWER SHORTAGE AND THE RURAL ELECTRIC COOPERATIVES

There are seven REA-financed cooperatives, six in the northern part of New Mexico and one in the southern part of Colorado, who will purchase their power requirements directly from the Plains Electric Generating Cooperative, Inc. These will be referred to as "the northern cooperatives." There are five REA-financed cooperatives in the southern part of New Mexico, four of which are receiving service from the Bureau of Reclamation. The fifth is furnishing its own generating pending service from the Bureau, which is expected to begin in March of 1952. These will be referred to as "the southern cooperatives."

INTRODUCTION

There is a serious power shortage in New Mexico which is rapidly becoming desperate. Unless it is solved promptly it will not be possible for the cooperatives to serve even their existing members adequately—and certainly they will not be able to serve any additional members or loads. In addition, the shortage of power will have an adverse effect upon service to the area generally, and to the important military and defense installations located there. The only economical and practical method of solving this power shortage condition is through the present construction by the Bureau of Reclamation of transmission facilities which they will eventually have to build for their own area program and the construction of a generating plant by the Plains Electric Generating Cooperative, Inc. This plan will enable the northern cooperatives to obtain adequate and reliable power at reduced cost directly from the Plains Electric Generating Cooperative, Inc., and will also enable the Bureau of Reclamation to provide more adequate service for the southern cooperatives. The reserve and off-peak capacity of the generating plant will be available to the Bureau to assist in

supplying the needs of its Rio Grande project customers and, in addition, to assist the power companies in the area through interconnection with the Bureau to more adequately meet the important demands upon them.

THE PROBLEM

Of the seven northern cooperatives, one is only partially energized due to lack of power; four furnish their own generation; one purchases its power from the Bureau of Reclamation; and the seventh purchases its power from the Public Service Co. of New Mexico. The four cooperatives furnishing their own generation are unable to take care of their anticipated load growth and all of their units are high-price producers. In addition, some of them are old plants which were acquired from others and do not have much additional life. Thus, as to these cooperatives, a new, reliable, adequate, and low-cost power source is essential for continued existence as well as for proper growth. The cooperative receiving service from the Public Service Co. of New Mexico has been informed that that company is not able to take care of its needs and has been requested to seek another source of power. The cooperative which is only partly energized must find a new and adequate source of power before it can even commence service on the remainder of its system. The cheapest cost of power for any of the northern cooperatives is now 1.4 cents per kilowatt-hour, and ranges upward to 2.7 cents per kilowatt-hour.

Four of the southern cooperatives are now receiving their power from the Bureau of Reclamation, and two of them already are taking more than the contract demands provided in their contracts with the Bureau. The power in excess of the contract demand is "if, as, and when" power, depending upon the ability of the Bureau to purchase it from others. The Bureau is unable to provide any additional power from its own generation. The fifth southern cooperative, which is now generating its power pending connection with the Bureau, is doing so at a cost of 2.2 cents per kilowatt-hour.

The seven operating cooperatives in the northern group now have a combined noncoincidental demand of 11,786 kilowatts and are serving 14,455 members. The estimate for 1952 is approximately 17,542 kilowatts of demand and 18,890 members; for 1955 the estimate is approximately 31,818 kilowatts of demand and 26,119 members; and for 1960 the estimate is 46,194 kilowatts of demand and 31,818 members.

The corresponding figures for the southern cooperatives are as follows: present demand 3,990 kilowatts, present membership 6,075; 1952: demand 11,700 kilowatts, membership 9,935; 1955: demand 18,800 kilowatts, membership 11,901; 1960: demand 24,944 kilowatts, membership 13,263.

Without additional generating capacity, none of this anticipated growth in load and membership can be taken care of. Furthermore, at least in the case of those cooperatives now furnishing their own generation, new generation is needed to insure even the maintenance of existing service.

The power shortage in the area involves more than merely the cooperatives. The Bureau of Reclamation is short of power; the private power companies in the area are short of power. In this connection, it should be pointed out that the area contains such important defense installations as: (1) The Atomic Energy Installation at Los Alamos; (2) Sandia Special Weapons Base near Albuquerque; (3) Kirtland Airfield at Albuquerque; (4) White Sands Proving Grounds; (5) Holloman Air Force Base near Alamagordo; and (6) Fort Bliss and Biggs Air Force Base at El Paso. The cooperatives can make no investment to take care of those other power needs. However, the cooperative generating plant involved in this proposal will have sizable quantities of off-peak energy and a reserve unit which can be made available for the needs of the Bureau and the area as a whole.

PROPOSED SOLUTION

The Plains Electric Generating Cooperative, Inc., proposes to construct a steam-electric generating plant of 45,000 kilowatts installed capacity. It has applied to the Rural Electrification Administration for a loan with which to construct such a plant and the Administrator of REA is willing to give favorable consideration to the application for the loan if the Bureau of Reclamation will construct its transmission facilities at this time, and certain other requirements are met.

The plan involves the construction by the Bureau of Reclamation of 362 miles

of 115-kilowatt transmission lines and associated substations. These are facilities which the Bureau will eventually need for its own program. The cooperatives would pay their fair share of the costs of maintaining and operating these facilities as well as replacement costs and amortization charges.

The Plains Electric Generating Cooperative, Inc., will have as members, and sell directly to, the northern cooperatives. It will furnish them with an adequate and reliable low-cost power supply. If the proposed plan is not adopted the northern cooperatives will have to install separate generating plants and subtransmission voltage transmission lines. This would at best be only a temporary solution and it would result in power costs to the seven northern cooperatives of approximately $2,500,000 more than under the proposed plan, just from 1955 through 1960.

Under the proposed plan, the Plains Electric Generating Cooperative, Inc., would have power available both from its reserve unit and during off-peak hours for sale to the Bureau of Reclamation. This would enable the Bureau of Reclamation to make better provision for the needs of the southern cooperatives and to assist the power companies through interconnection with its Rio Grande project power system at Albuquerque. Thus, not only would the cooperative problem be solved, but an additional supply of power would be available to the Bureau and the power supply situation in the entire area would be greatly improved.

CONCLUSION

Under the proposed plan the following benefits will result:

1. The northern cooperatives will obtain an adequate, efficient, and low-cost power supply.

2. The Bureau of Reclamation will be enabled to provide better service for the southern cooperatives.

3. The Bureau of Reclamation will be able to make power available to the power companies and others in the area, thus helping all parties to provide more adequate service and to meet their defense and military obligations.

4. The thousands of farm families who have been waiting for electric service for so long will be able to receive it and those already receiving service will be able to obtain a more reliable and adequate source of supply. In the case of the northern cooperatives it will also result in a substantial reduction of power costs. And it will enable all of the cooperatives and their members to make the maximum contribution to the defense effort.

5. The plan involves no expenditure by the Government which woul dnot otherwise be made. The loan to the cooperatives will be repaid in full with interest. The expenditure of the Bureau is one which would have to be made in any event at a future date and the cooperative will pay to the Bureau a fair rental for the use of the transmission facilities to be constructed.

6. Unless the proposed plan is put into effect there can be no practical or economical solution to this power-shortage problem. Some of the cooperatives will be required to install separate small generating units at high cost, both in installation and operation, with a resulting high cost of power. Other cooperatives will have no alternative but to curtail service to their existing members and to deny service to any additional members. Not only would this be a costly and inadequate solution, but it would produce none of the benefits for the Bureau and the area as a whole that the proposed plan would do.

PERTINENT DATA

The details of the power shortage in New Mexico and of the proposal submitted herewith to solve that shortage are given below.

Area involved

The seven cooperatives in the northern group and the counties they serve are:

Name and address	*Counties served*
Kit Carson Electric Cooperative, Inc., Taos, N. Mex. (New Mexico 11 Taos).	Colfax, Rio Arriba, Taos, Costilla (Colorado).
Mora-San Miguel Electric Cooperative, Inc., Mora, N. Mex. (New Mexico 14 Mora).	Mora, San Miguel, Guadalupe.
Continental Divide Electric Cooperative, Inc., Grants, N. Mex. (New Mexico 22 McKinley).	McKinley, Valencia, Bernalillo.
Jemez Mountains Electric Cooperative, Inc., Espanola, N. Mex. (New Mexico 28 Sandoval).	Rio Arriba, Sante Fe, Sandoval.
San Luis Valley Rural Electric Cooperative, Inc., Monte Vista, Colo. (Colorado 14 Alamosa).	Saguache, Mineral, San Juan, Rio Grande, Comejos, Alamosa, Costilla.
Northern Rio Arriba Electric Cooperative, Inc., Chama, N. Mex. (New Mexico 15 Rio Arriba). (This cooperative is only partially energized.)	Rio Arriba.
Springer Electric Cooperative, Inc., Springer, N. Mex. (New Mexico 19 Colfax).	Colfax, Union, Mora, Harding.

The southern cooperatives and the counties they serve are:

Name and address	*Counties served*
Otero County Electric Cooperative, Inc., Cloudcroft, N. Mex. (New Mexico 12 Otero).	Otero, Lincoln, Chavez.
Sierra Electric Cooperative, Inc., Truth or Consequences, N. Mex. (New Mexico 17 Sierra).	Sierra, Socorro.
Socorro Electric Cooperative, Inc., Socorro, N. Mex. (New Mexico 20 Socorro).	Socorro, Catron, Valencia.
Central New Mexico Electric Cooperative, Inc., Mountainair, N. Mex. (New Mexico 21 Lincoln).	Torrance, Lincoln, De Baca, Santa Fe, Bernalillo, Socorro.
Columbus Electric Cooperative, Inc., Columbus, N. Mex. (New Mexico 25 Luna).	Luna, Hidalgo, Grant.

The power requirements and the number of members served by each of the cooperatives, at present and as estimated for the future, is as follows:

NORTHERN COOPERATIVES

	Present demand	Present members	1952 estimated		1955 estimated		1960 estimated	
			Members	Demand	Members	Demand	Members	Demand
	Kilowatts			*Kilowatts*		*Kilowatts*		*Kilowatts*
New Mexico 11	1,700	3,594	4,505	3,185	6,036	7,269	6,631	9,449
New Mexico 14	400	1,323	1,939	744	2,674	1,291	4,099	2,586
New Mexico 19	1,086	1,343	1,786	1,346	2,397	2,901	2,536	3,914
New Mexico 22	2,700	1,613	2,185	4,609	3,475	7,096	4,280	10,222
New Mexico 28	1,700	3,895	4,562	2,776	6,252	5,392	8,002	8,522
Colorado 14	4,100	2,239	3,000	4,380	3,900	6,550	4,300	9,250
New Mexico 15	300	448	913	502	1,385	1,227	1,970	2,251
Total	11,786	14,455	18,890	17,542	26,119	31,726	31,818	46,194

SOUTHERN COOPERATIVES

New Mexico 12	797	1,179	1,900	1,553	2,264	2,426	2,639	3,535
New Mexico 17	147	392	565	399	780	722	900	1,055
New Mexico 20	1,188	2,108	2,923	2,431	3,358	4,270	3,703	5,654
New Mexico 21	1,200	2,213	3,396	3,809	4,039	6,155	4,456	8,502
New Mexico 25	658	183	1,151	3,582	1,460	5,229	1,565	6,198
Total	3,990	6,075	9,935	11,774	11,901	18,802	13,263	24,944

Present power sources

The present power sources and cost of power of the cooperatives are:

NORTHERN COOPERATIVES

	Power source	Average cost per kilowatt-hour (mills)
New Mexico 11	Own generation	19
New Mexico 14	Public Service company of New Mexico	14
New Mexico 19	Own generation	15
New Mexico 22	do	15
New Mexico 28	do	27
Colorado 14	Bureau of Reclamation	93

SOUTHERN COOPERATIVES

New Mexico 12	Bureau of Reclamation	7
New Mexico 17	do	7
New Mexico 20	do	7
New Mexico 21	Own generation pending connection with Bureau.	22
New Mexico 25	Bureau of Reclamation	7

Inadequacies of present power sources

The cooperatives furnishing their own generation have generating capacity in relation to 1955 demands as follows:

Cooperative	Generating capacity	1955 demand	Cooperative	Generating capacity	1955 demand
	Kilowatts	*Kilowatts*		*Kilowatts*	*Kilowatts*
New Mexico 11	2,016	7,269	New Mexico 28	3,547	5,392
New Mexico 19	[1] 4,000	2,901	New Mexico 21	4,020	6,155
New Mexico 22	3,289	7,096			

[1] Will be fully depreciated by 1956 and retired from service.

Cooperatives receiving service from the Bureau of Reclamation are already exceeding their contract demands and the Bureau is unable to furnish them with any more power from its own generation. The contract demands, the present use, and the 1955 demands are as follows:

Cooperative	Contract demand	Present actual demand	1955 demand
	Kilowatts	*Kilowatts*	*Kilowatts*
New Mexico 12	1,000	797	2,426
New Mexico 17	100	147	722
New Mexico 20	1,000	1,188	4,270
New Mexico 25	750	658	5,229

New Mexico 14 Mora, which receives service from the Public Service Co. of New Mexico has been notified by the latter that it is short of power and has been requested to seek another source of power.

The agricultural importance of the area

The proposed area covers 20 counties in New Mexico and 5 counties in south central Colorado. The approximate land area amounts to 54,440,480 acres or 70 percent of the total land area in the State of New Mexico. This area contains 17,839 farms or 60 percent of the farms in the State of New Mexico and 2,858 farms or 6 percent of the farms in Colorado. Cropland harvested amounts to 687,030 acres or 35 percent. Total cropland amounts to 969,663 acres or 39 percent of the land area. Land pastured amounts to 28,965,871 acres or 62 percent. This area contains about 4,500,000 acres or 96 percent of the total woodland in the State of New Mexico. The value of the land and buildings in the area amounts to $193,519,940. Value of implements and machinery amounts to $16,301,501. The value of livestock amounts to $39,570,839. This area produced farm products, sold and used by the farm household, which were valued at $58,306,381. Of this amount, $53,351,142 accounted for the products sold. All crops sold accounted for 37 percent of this amount. All livestock sold amounted to 62 percent.

Needs of the Bureau of Reclamation

We are informed by the Bureau that it is unable to meet the demands upon it without assistance from others. The installed capacity of its Elephant Butte plant is 24,300 kilowatts, but all of this capacity is not firm. Additional energy for integration with hydroelectric energy is needed. The Bureau's requirements for 1951–52 are 29,000 kilowatts and for 1952–53 they are 33,000 kilowatts. The prospects for water are the worst in the Rio Grande project's history. The Plains Cooperative would of course make available to the Bureau all of the power and energy which is not needed by Plains to serve its own members. During the developmental period there may be some firm capacity available for Bureau use and, except when a unit is down for repairs, the capacity of the reserve unit would always be available to the Bureau. In addition, Plains could assist the Bureau with off-peak power.

Needs of the area

The area as a whole is very short of power. The Public Service Co. of New Mexico and the Frontier Power Co. have both stated their desires to obtain power from the Plains plant. Plains will, of course, install only such capacity as is needed for serving its own members. However, as indicated above, substantial amounts of power and energy will be made available to the Bureau during the developmental period, during off-peak hours and from the reserve unit. Such of this power and energy which the Bureau will not need for serving its preferred customers can be made available, through the Bureau, to the companies.

Needs of defense installations

As already stated, the area contains important military and defense installations. These must always receive the power which they need. The strengthening of the power supply situation in the area will definitely improve the security of these installations as to their power requirements. The mere addition of a modern steam-generating plant of this capacity means that in times of emergency

there will be this added source to assist them. And by relieving some of the pressure upon the other power suppliers, the latter can more easily render them the service which they must have.

Analysis of proposal

The present proposal contemplates the construction of a 45,000-kilovolt steam-electric generating plant by the Plains Electric Generating Cooperative, Inc., at an estimated cost of approximately $9,000,000. This money will be lent by REA to the cooperative and will be repaid in full with interest over the usual 35-year loan period. The plan also contemplates the advance construction by the Bureau of 362 miles of 115-kilovolt transmission lines and associated substations at an estimated cost of approximately $7,000,000. The transmission facilities which the Bureau would construct are facilities which it will need in the future in connection with its area program. Therefore, no expenditure by the Bureau is contemplated which would not otherwise be necessary. The plan merely involves the present construction, instead of the future construction, of necessary facilities. The cooperatives will pay to the Bureau for the use of these facilities their fair share of the cost of maintenance, operation, replacement, and amortization. In addition, the Bureau will be enabled better to serve the southern cooperatives and to make power available through the private power companies to the area as a whole.

Under the proposed plan, the cost of power of the northern cooperatives, now ranging from 14 to 27 mills per kilowatt-hour, will be reduced to approximately 9 mills per kilowatt-hour. This will result in a saving under the proposed plan merely from 1955 through 1960 of approximately $2,500,000 to the northern cooperatives. The existing generating facilities of the cooperatives will either be retired or be used only for emergency and stand-by purposes.

Thus, under the proposed plan, at no cost to the Government, but merely by the advance construction of certain transmission facilities by the Bureau, and the construction of the cooperative's generating plant, the following results will be obtained:

1. An adequate and reliable power source will be furnished for the northern cooperatives at great savings in cost.
2. The Bureau will be able to provide more adequate service for the southern cooperatives.
3. The Bureau will be able to assist others in the area to solve their power-shortage difficulties, thereby helping to alleviate the area power shortage.
4. The important military and defense installations in the area will be made more secure as to their power requirements.

If the proposed plan is not adopted (*a*) the northern cooperatives will each have to make separate investments in individual generating units and subtransmission voltage transmission lines. This will at best provide only interim relief for them and will result in power costs substantially higher than those under the proposed plan; (*b*) the southern cooperatives will be unable to obtain additional power and they will, therefore, have to curtail the use of electricity by existing members and refuse to connect any additional members; and (*c*) there will be no relief whatever for the others in the area who are short of power and no improvement in the power supply for the military and defense installations.

The only economical and practical solution to this serious power shortage situation in New Mexico is the one proposed. Any other approach would result in wasted investment, higher costs, and inadequate solution.

STATEMENT OF C. K. BRASHAR, DIRECTOR, JEMEZ MOUNTAINS ELECTRIC COOPERATIVE, ESPANOLA, N. MEX.

Mr. Chairman and gentlemen of the committee, the Jemez Mountains Electric Cooperative,Inc., is an REA-financed nonprofit cooperative with headquarters in Espanola, N. Mex. The cooperative serves a portion of the rural areas contained in Santa Fe County and southern Rio Arriba County and Sandoval County, all located in the northern part of New Mexico.

The area in and around Espanola now being served by the Jemez Mountains Electric Cooperative has experienced an unprecedented growth and development in the last 10 years. This area comprises the northern part of Santa Fe County, a considerable part of Sandoval County, and nearly all of Rio Arriba County.

The growth and development in and around Espanola is due in a large measure to the atomic energy installations at Los Alamos, Espanola being the nearest town to Los Alamos, and a large number of Los Alamos workers live in and around Espanola. At the present time there are about 10,000 people within a radius of 5 miles of Espanola.

The development of electric power and transmission lines has not kept pace with the growth of the area, and there is a desperate need for such development. In addition to this there are thousands of people living in our rural areas who do not have electric power. Development of our natural resources, such as lumber, coal, oil, and gas, is being seriously retarded by the lack of electric power. Our present plant at Espanola will not serve the needs of the area. It is urgent that additional generators be installed, and transmission lines constructed that will connect our facilities with other generating units if we are to serve our rural population. The only way that this can be accomplished is through the facilities of REA and the Bureau of Reclamation.

The Jemez Mountains Electric Cooperative at the present time has approximately 400 miles of distribution line and 51 miles of transmission line serving a connected membership of approximately 4,800. A portion of these members are served by the Northern Rio Arriba Electric Cooperative which are receiving service from the Jemez Mountains Electric Cooperative generating plant. The population in the service area of this system is in the neighborhood of 35,000 to 40,000 rural and urban residents, including several small communities both unincorporated and incorporated, namely, Espanola, Riverside, Chama, Coyote, Youngsville, Gallina, Cuba, Jemez Springs, San Ysidra, and six Indian pueblos and many smaller communities. At the present time the co-op serves approximately 2,100 members who work at Los Alamos atomic engineering installation and we anticipate an increase of a large amount of workers, as they are increasing regularly to meet the work demand. This cooperative at the present time is operating its own 2,900-kilowatt generating plant located at Espanola, N. Mex. However, the plant is of high-speed Disel generating units which operate at a very high cost per kilowatt. The plant at the present time is operating at its peak capacity and the condition is such that when it has to be overhauled and repaired some of the rural lines will have to be disconnected.

A considerable portion of the electric service furnished by this cooperative is for farmers who produce a great deal of food, including meat, and those who are dry farmers especially need electric power for irrigation. With sufficient power available there is a lot of timber needed for defense that could be harvested with proper power at a cheap cost by local sawmill operators. The northern part of New Mexico has always had a power shortage condition existing in the area. The proposed generating plant of the Plains Electric Generating Cooperative creates the only immediate possibility of having sufficient generating capacity for the requirements of this area.

We are finding that the rural residents in this are are rapidly finding increased uses for electricity in their farming and ranching operations. The demand has increased by leaps and bounds since it has been known that electric service could come into the rural areas.

The generating plant will be able to furnish power for defense installations at Kirtland Field and at Sandia Base at Alburquerque, N. Mex., and in case of emergency can furnish power to the Atomic Energy Commission installation at Los Alamos. The proposed plant would furnish adequate and reliable low-cost power to the various cooperatives and to present and potential industrial operations throughout the area.

STATEMENT OF R. J. MOSES, ALAMOSA, COLO., ATTORNEY FOR SAN LUIS VALLEY RURAL ELECTRIC COOPERATIVE, INC., MONTE VISTA, COLO., IN SUPPORT OF ADVANCE CONSTRUCTION OF TRANSMISSION LINES IN NORTHERN NEW MEXICO AND SOUTHERN COLORADO BY THE BUREAU OF RECLAMATION

My name is R. J. Moses, and I have been attorney for San Luis Valley Rural Electric Cooperative, Inc., since its organization. I am also a member of this cooperative and am served by it. The cooperative serves six counties in the San Luis Valley in southern Colorado, at the headwaters of the Rio Grande Del Norte.

Our area lies approximately half way between two authorized and functioning Bureau projects—the Rio Grande project in southern New Mexico and the Colorado Big Thompson project in northern Colorado. Two other projects—the Frying Pan-Arkansas and the Wagon Wheel Gap projects in Colorado will, it is hoped, augment existing power sources within a few years.

The power plants of the two existing projects are more than 500 miles apart. REA will be able to give favorable consideration to a loan for the construction of a steam-generating plant on the Rio Grande near Espanola, about 100 miles south of my home, and in the heart of the worst power-hortage area, provided the Bureau of Reclamation is able to proceed with construction of certain essential transmission lines in the immediate future (see letter from Claude Wickard, Administrator of REA, to Gaylord A. Burt, president, Plains Electric Generating Cooperative, February 20, 1951).

Several years ago our cooperative joined with several northern New Mexico cooperatives and formed Plains Electric Generating Cooperative in an effort to find a workable solution to our power problems. We believe that, in this present plan, we have found such a solution; at least until power is available from the Bureau's proposed hydro projects in Colorado, as stated by Mr. Wickard in his letter above referred to.

The areas involved are served by two major private utilities—Public Service Co. of New Mexico and Public Service Co. of Colorado. New Mexico Public Service is supporting this request. Colorado Public Service is opposing it. Why?

In order to find out why there is any opposition to this project—one which will, admittedly, be self-liquidating in an area where the most acute power shortages obtain—takes a good deal of looking.

Colorado Public Service does not sell to any of the affected cooperatives. The Bureau has, for many years, planned the construction of the majority of these lines. This request merely steps up the date of construction to more nearly keep pace with the mushrooming demand. Why is Colorado Public Service concerned?

Because this company wheels to our cooperative. Their representative has repeatedly assured this committee and the corresponding committee in the House that it wheeled power to cooperatives as a matter of service—that it performed this service in order to save the taxpayers' money, and that the service was rendered at cost. If this company makes no profit from the wheeling charges—3 mills in our case—why is it so anxious to keep the job?

In a letter from J. E. Loiseau, president, Public Service Co. of Colorado, to Mr. Avery A. Batson, Director, region 7, United States Bureau of Reclamation, dated January 16, 1950, and introduced into the record before the House committee last year, as exhibit B in support of Mr. Loiseau's testimony (p. 1352), Mr. Loiseau says:

"We respectfully urge that such preference customers be included in the wheeling agreement at such a fee as will compensate the company for its actual costs, which costs will be substantially less than the cost to the Government to directly supply this service."

And, it follows as the next logical question, if our cooperative is being furnished Bureau power under a wheeling contract, why are we so anxious to generate our own and lease Bureau lines? Can't you say we would, in effect, be wheeling our own power over Bureau lines?

We want these lines built and we want to build our own generating plant because even if the present wheeling arrangement were entirely satisfactory, even if the present wheeling charge were reasonable, it will shortly be of little or no benefit to us. Our source of power is only temporary. The Bureau of Reclamation has so advised us.

In a letter from Mr. E. V. Lindseth, Assistant Director, Bureau of Reclamation regional office, region 7, to Mr. Ray Villyard, manager, San Luis Valley Rural Electric Cooperative, Inc., which letter is attached to Mr. Villyard's statement to this committee, it is said:

"Service to your cooperative and to other cooperatives which are beyond the normal market area of the Colorado-Big Thompson project should not be considered as the solution to your ultimate power-supply problems. Within a few years after the completion of the Colorado-Big Thompson project, we expect the full output of the Colorado-Big Thompson project will be required to meet loads on the existing interconnected system in northeastern Colorado, Wyoming, and Nebraska. Thus, while we are able under the wheeling contract to furnish electric service to your cooperative for a relatively short period of time, your cooperative must look to other potential sources within your area for your ultimate power supply."

The same letter indicates that not only is our power supply uncertain beyond a couple of years but the growing defense demands in the Denver area may make our immediate supply inadequate.

These conditions are not entirely unexpected. From the outset we have been told that Bureau power from Colorado-Big Thompson was only a stopgap solution,

and that the normal market area of Colorado-Big Thompson was northeastern Colorado.

We therefore find ourselves in the position of a man who buys water from a firm whose well is running dry, and the pipeline company (theoretically, a nonprofit company) who delivers the water is complaining because the landowner wants to dig his own well.

Construction of electric facilities—generating plants and transmission lines—takes time, especially under defense conditions such as we are faced with now. Funds granted for the advance construction of these lines comes 2 years too late at least. We strongly urge your favorable consideration of our request. Our need is great, the project is sound economically, and merely brings the Bureau construction in this area into step with current conditions.

STATEMENT OF RAY W. VILLYARD, MANAGER, SAN LUIS VALLEY RURAL ELECTRIC COOPERATIVE, INC., MONTE VISTA, COLO., IN SUPPORT OF ADVANCE CONSTRUCTION OF TRANSMISSION LINES IN NORTHERN NEW MEXICO AND SOUTHERN COLORADO BY THE BUREAU OF RECLAMATION

My name is Ray W. Villyard, and I am manager of San Luis Valley Rural Electric Cooperative, Inc., a cooperative with offices at Monte Vista, Colo., serving approximately 2,300 members over 1,000 miles of distribution lines.

The power shortages of this cooperative are not new to this committee, or at least to the more senior members. In 1949 we appeared unsuccessfully in support of a request for funds to permit the Bureau to construct a transmission line from Green Mountain Dam to Saguache to relieve a very acute power shortage which had forced us to ration power and deny additional applications for service. (See hearings on H. R. 3838, 81st Cong., 1st sess., pp. 1043–1053.)

We currently have a demand of 4,000 kilowatts, with an estimated demand of 8,000 kilowatts in 1952 and 27,000 kilowatts in 1956. Our present contract with the Bureau of Reclamation, which expires December 31, 1960, has a limit of 3,650-kilowatt demand. You will note from the attached letter that the Reclamation Bureau people are something less than enthusiastic about their ability to supply our load requirements for as early as 1952, and that we must look elsewhere for our ultimate power requirements. At present we are receiving Bureau of Reclamation power, wheeled over the lines of the Public Service Co. of Colorado from Green Mountain Dam, a part of the Big Thompson project, about 150 miles from our load center at Monte Vista. This wheeling arrangement was worked out as a temporary expedient to relieve, in part, the power shortages testified to in June of 1949. (See reference above.) We are advised by the Bureau that this arrangement can only be considered as temporary until other power sources are available. The Bureau already has a market for Big Thompson power. We are outside their power-marketing area and ultimately would be served by Bureau sources in New Mexico and from sources on the Arkansas and Rio Grande in Colorado.

The construction of this 115,000-volt line to our load center at Monte Vista will guarantee to the farms in this area, comprising the counties of Alamosa, Conejos, Costilla, Rio Grande, and Saguache, an adequate supply of power and at the proper voltages for efficient utilization. As we understand the situation, the only purpose of this request by the Bureau is the authorization of advance construction by the Bureau—construction that is scheduled to take place, but which would normally be deferred were it not for the acute power shortage in New Mexico and our part of Colorado.

This cooperative has recently received a loan from REA in excess of $1,000,000 to be spent for high-voltage lines and additional substations. After the completion of this project we will be adequately equipped to serve our area properly provided our power source and the facilities for transmitting the power to us are adequate. Even our present load has caused the transmission system from the Big Thompson project to be so taxed that low voltage has been a serious problem this year.

Our valley, the San Luis Valley, is an enormously rich one, with more than 750,000 acres of irrigated land, growing large quantities of potatoes, peas, grain, and vegetables, and feed for livestock. Production is high. But the limiting factor on all production in the San Luis Valley is the availability of water for irrigation. Everything must be irrigated. There is no dry-land farming in the San Luis Valley. Consequently there are 1,250,000 acres not now under cultivation due to lack of irrigation water.

All of the direct-flow water from the streams has been appropriated. The only additional source of water is from wells. The number of pumping wells on our system has increased phenomenally. In 1940 we served no pumping wells. Today we serve 300. We have request for additional pumps totaling 2,000 horsepower, which we are today unable to serve. In the past every estimate our engineers have made concerning the number of wells and the increase in our demand for power has been too low. No one 10 years ago could possibly foresee this factor. In addition, the town of Creede and the lead and zinc mines at Creede want 750 kilowatts. A large lumber mill at South Fork, with large Government contracts, wants 750 kilowatts. We cannot meet these demands without another source of power.

We are not asking for an appropriation of Government funds to tide us over a tight spot. We are only asking that this committee approve the construction of these lines now, which will be constructed in a few years in any event, and we are willing to rent a portion of these lines immediately in return for their present availability.

We urgently request the favorable consideration of this request of the Bureau of Reclamation.

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
REGIONAL OFFICE 7,
Denver 2, Colo., March 21, 1951.

Mr. RAY VILLYARD,
Manager, San Luis Valley Rural Electric Cooperative, Inc.,
Monte Vista, Colo.

DEAR MR. VILLYARD: Mr. B. E. Miller of our South Platte district office has informed me of a recent telephone discussion you had with him. I understand you desire our answers to these questions:

(*a*) Will the Bureau, beginning in 1952, be able to supply your cooperative with approximately 2,750 kilowatts of additional firm power—750 kilowatts would be required to furnish year-round service for a box factory being located in your area, and the remaining 2,000 kilowatts would represent additional seasonal irrgation pumping; and

(*b*) What is the long-term outlook as to the ability of the Colorado-Big Thompson project to furnish the continually increasing load requirements of your cooperative?

We are greatly concerned over the power supply picture on our interconnected system until the Foothills power plants of the Colorado-Big Thompson project—approximately 95,000 kilowatts—may be completed and placed in operation. The completion date presently is scheduled for the summer of 1953. We are particularly concerned because we find it very difficult to evaluate the full impact of the mobilization program. I believe, however, we will be able to serve the additional loads you mention, but I must reserve the right to reexamine our position at such time as we may receive a formal request from you.

With respect to your second question, I believe we made our position clear at the time of the execution of the wheeling contract with Public Service Co. of Colorado. Service to your cooperative and to other cooperatives which are beyond the normal market area of the Colorado-Big Thompson project should not be considered as the solution to your ultimate power supply problems. Within a few years after the completion of the Colorado-Big Thompson project, we expect the full output of the Colorado-Big Thompson project will be required to meet loads on the existing interconnected system in northeastern Colorado, Wyoming, and western Nebraska. Thus, while we are able under the wheeling contract to furnish electric service to your cooperative for a relatively short period of time, your cooperative must look to other potential sources within your area for your ultimate power supply.

I hope this furnishes the information you desire, and I assure you we will be pleased to discuss your power supply problems in greater detail at any time you may desire.

Very truly yours,

E. V. LINDSETH, *Assistant Director.*

CONTINENTAL DIVIDE ELECTRIC COOPERATIVE, INC., NEW MEXICO 22 MCKINLEY, GRANTS, N. MEX.

The power shortage of our cooperative, the Continental Divide Electric Inc., Grants, N. Mex., serving Valencia and McKinley Counties, is coming and becoming more and more acute everyday.

We have in our files over 1,300 signed applications for service, some of which have been signed for 5 and 6 years, and just waiting for the day when the cooperative can furnish power to them. These applications consist of ranches, farmers, individuals, merchants, and large power users such as Zuni Milling Co., which is very essential to our national defense, Copper Hill Mining Co., Pumice Corp. of America, Anaconda Copper Co., who are doing extensive research work in the uranium field and expect to have a mill in operation by the first of 1952.

Besides the 1,300 applications we have on file, there are many other prospective consumers which include the members already assigned, would exceed well over 2,000.

To point out a little more thoroughly here are a few of the applications broken down as to name and required loads:

	Kilowatts
Zuni Milling Co. (fluorspar) (new)	1,000
Pumice Corp. (increased load)	300
Copper mine (new)	500
Anaconda Co. (new)	750
Indian Service, Crown Point (new)	150
Irrigation farmers, based on normal 5-year increase	1,700
Ice plant, will need load in 1952	850

In addition to the above we have been contacted by other industries who would like to have power when available.

Our present Diesel generating plant has a capacity of 3,250 kilowatts at this altitude. The peak load in the summer of 1950 was 2,350 kilowatts. I might point out that when a plant reaches 75 percent of capacity, which is in our case, the danger point is immediately reached. In such a case a unit failure would cause a great loss to consumers as it would be necessary to ration power until a repair could be made. In our case this would be very serious as all of our farming are vegetables and a vegetable crop can be lost in 6 hours for the lack of water. Pumps for the irrigation farms operate 24 hours per day all during the season. In our locality distances are great and all kinds of business would suffer a tremendous loss, especially to industries like the Pumice Corp., Anaconda Co., and others.

We have contemplated installing another 1,000-kilowatt unit (which would only develop 850 kilowatts at this altitude) Diesel high-speed unit in our plant, but this very thing was done in 1950 and we reached the capacity of our plant immediately during our peak season. The installation of another Diesel unit definitely would not solve our problem of power shortage.

From the analysis of study by our consulting engineers, we have bona fide records to prove the only solution to our problem is securing sufficient power which we believe the Plains generating and transmission cooperative can supply—plans which have been presented—can furnish.

It is impossible to generate with Diesel fuel and sell to industries at a rate which they can live with.

CONTINENTAL DIVIDE ELECTRIC COOPERATIVE, INC.

STATEMENT OF M. N. MIKESELL, DIRECTOR OF SPRINGER ELECTRIC COOPERATIVE, INC.

The Springer Electric Cooperative, Inc., is an REA-financed, nonprofit cooperative with headquarters in Springer, N. Mex. This cooperative serves all of the rural areas contained in Colfax and Harding Counties and a portion of the area in Mora, San Miguel, and Union Counties, all located in the northeastern corner of New Mexico.

The Springer Electric Cooperative at the present time has approximately 800 miles of distribution and transmission line energized, serving a connected membership of approximately 1,400. The cooperative furnishes wholesale power for the town of Springer, N. Mex., and also generates power for the operation of three large coal mines located in the northeast corner of New Mexico. The estimated population served by this cooperative is in the neighborhood of 14,000 to

15,000 rural and urban residents. Several small communities, both unincorporated and incorporated, are served by this cooperative, namely Folsom, Farley, Springer, Miami, Wagon Mound, Maxwell, Cimarron, Colmor, Van Houten, Koehler, Brilliant, and Dawson.

This cooperative at present is operating its own 4,000 kilowatt generating plant located at Dawson, N. Mex. However, the plant is an old plant which will be fully depreciated and retired from service by 1956. Also, it is located on property owned by the Phelps-Dodge Corp. and is in a position which might become precarious within an even shorter period of time, due to the fact that Phelps-Dodge Corp. would not negotiate a lease for more than 2 years.

The electric service furnished by this cooperative very definitely contributes to the war preparedness effort in that it furnishes electricity for the operation of several coal mines, and if sufficient energy were available, together with the proper transmission system, the cooperative would be able to furnish power for five large dry ice compression plants located within the area served by the cooperative. In addition to the above there are several hundred large farms and ranches being served by this cooperative who contribute greatly to the meat and other farm products of the Nation's food supply.

The northern part of New Mexico has always had a power shortage condition existing in its area. The proposed generating plant of the Plains Electric Generating Cooperative creates the only possibility of having sufficient generating capacity for the requirements of this area.

There are seven REA-financed cooperatives, six of them in the northern part of New Mexico and one in the southern part of Colorado, who will purchase their entire requirements directly from the Plains Electric Generating Cooperative. In every case with the seven cooperatives concerned there is a serious power shortage which is becoming rapidly more and more desperate. In addition to the power shortage all of these cooperatives are paying exceedingly high-power costs, both in the case of those who are purchasing wholesale power and in the case of those who are at present generating their requirements with small Diesel plants located at high elevations, which brings about a very low efficiency of operation.

The rural residents served by all of these cooperatives are rapidly finding increased use for electricity in their farming and ranching operations. The demand has increased by leaps and bounds since the inauguration of electric service into these rural areas, and the estimate of the 1952 demand for the seven cooperatives mentioned is approximately 17,500 kilowatts. It is also estimated that by 1960 the demand will be a minimum of 46,000 kilowatts.

It will be absolutely impossible for the load requirements of these cooperatives to be taken care of without addtional generating capacity, and it is very doubtful if these cooperatives can even maintain service on their existing lines with their present generating capacity.

The power shortage in this area involves a great deal more than just the cooperatives. The proposed generating plant will be able to furnish power for defense installations at Los Alamos, N. Mex., Sandia Special Weapons Base, and Kirtland Airfield and will release power for the Bureau of Reclamation to serve White Sands Proving Grounds, Holloman Air Force Base, Fort Bliss, and Biggs Air Force Base.

The proposed plant will not only furnish adequate and reliable low-cost power to the cooperatives and to the important installations mentioned but will have additional power available during off-peak hours and from its reserve unit to sell to the Bureau of Reclamation for its distribution. This would enable the Bureau to make better provision for the needs of the southern part of New Mexico, which would not only be of benefit to the Bureau of Reclamation so far as revenue is concerned, but would greatly assist the power supply situation in all of the southern part of New Mexico.

STATEMENT OF MR. GEORGE LAVATO, PRESIDENT, KIT CARSON ELECTRIC COOPERATIVE, TAOS, N. MEX., IN SUPPORT OF REQUEST FOR APPROPRIATIONS TO BUREAU OF RECLAMATION FOR CONSTRUCTION OF TRANSMISSION LINES IN NEW MEXICO

The Kit Carson Electric Cooperative, Inc., covers Taos County in northern New Mexico and parts of three adjacent counties; 650 miles of line serve 3,700 meters in an area 60 miles in radius. Twenty-five to 50 farmers and rural residents are being added each month. The only source of power now is our own generators—

2,000 kilowatt maximum capacity, or 1,500 kilowatt firm power. Our present consumers will demand more than our firm power (1,500 kilowatts) this August. We have on hand applications for 1,000 kilowatts of additional power for serving mines and mills handling such strategic materials as mica, perlite, and molybdenum, and several sawmills whose product is trucked to the AEC installations as fast as it can be turned out. To supply this demand requires a source of additional power.

Generation at 7,000 feet elevation is expensive. Our most efficient generation costs us 22 mills per kilowatt-hour. An additional generator in our plant will raise, not lower, this cost; it would give only costly, temporary relief and not a permanent answer, for all surveys point to a demand of five times the present before 1960.

The Kit Carson Cooperative, one cooperative of several, needs an adequate and reliable source of power at an economical cost. The engineers' answer is a gas-fired steam plant at a lower altitude.

STATEMENT PRESENTED TO COMMITTEE ON APPROPRIATIONS BY MORA-SAN MIGUEL ELECTRIC COOPERATIVE, INC., MORA, N. MEX.

For many years the people in the community of Mora, N. Mex. and its surrounding areas had been struggling along with individual power units and a very inadequate power system. Repeated requests were made to the Public Service Co. of New Mexico, Las Vegas division for electric service, and these requests were denied with the contention that some 35 miles of distribution line from Las Vegas to Mora, N. Mex., were not feasible.

The desperate need of adequate electric service urged the people of Mora and surrounding areas, the farmers and dairymen of Storrie project—the Storrie project being a land corporation just outside the city limits of Las Vegas, N. Mex.—to investigate the possibilities of REA aid of their needs.

After several meetings by the local people and some REA officials the Mora-San Miguel Electric Cooperative, Inc., became a corporation under the laws of the State of New Mexico on December 17, 1940. World War II intervened at that time and all operations were stopped. Immediately after the war, operations were resumed with the construction of 184 miles of distribution line, serving 600 consumers in Mora and San Miguel Counties.

From the time the first lines were energized in October 1946 to 1949 the applications and requests for electric service were such that in 1949, 298 miles more of distribution lines were constructed serving 766 more consumers. Today we have approximately 1,000 unserved consumers in our area, and 580 of these have made applications for electric service. The people who have applications are being served as rapidly as possible, consequently the mica mill which is now producing mica for the war effort is restricted to only 8 hours' operation, daytime load, because of the fact that we do not have an adequate supply of electrical energy. Sawmills and other mica producers have also been denied service for the same reason.

We urge our members through news letters to acquire refrigerators, deep freezers and other electrical equipment to produce more food and to preserve more food in support of the war effort and many of these people are so equipped. We believe in distributing our limited supply of electricity to everyone, especially to the farmers and ranchers who supply food products to our country. Therefore, the production of food curtails the production of minerals and lumber for lack of sufficient power in our area.

Our requirements are great and we are desperately in need of another source of power. At present we are being serviced by the Public Service Co. of New Mexico, Las Vegas division at a very high rate (1.4 cents per kilowatt hour). Besides the high rate, the Las Vegas facilities are loaded to capacity and we have been advised by letter dated April 26, 1951 that they no longer wish to serve our cooperative after September 15, 1951 as evidenced by a copy of said letter, to wit:

[Copy of letter]

PUBLIC SERVICE CO. OF NEW MEXICO,
LAS VEGAS DIVISION,
Las Vegas, N. Mex., April 26, 1951.

MORA-SAN MIGUEL ELECTRIC COOPERATIVE, INC.,
Las Vegas, N. Mex.

Attention: Mr. B. L. Battishill, President

GENTLEMEN: On September 15, 1951 the first term of our contract with you dated March 19, 1946, under which we are furnishing you with service at a point near Las Vegas, will terminate if canceled by either party by 4 months' written notice.

This is to advise that we wish to avail ourselves of the privilege of canceling the agreement on September 16, 1951. As has previously been discussed, we are agreeable to working out a new arrangement to continue service for a short period of time, should construction of the facilities to enable you to obtain power from another source be delayed and we will welcome an opportunity to discuss this matter with you.

The purpose of this letter is only to assure you that our contract with you will not be automatically renewed and thus commit both you and ourselves to an arrangement for a period of time that neither of us desire.

Very truly yours,

ROSS E. THOMPSON,
Division Manager.

The transmission and generation facilities for which we are here requesting funds are being designed not only to avail the cooperative of adequate power, but also to provide power to the Public Service Co. of New Mexico. This proposal of power exchanges has been discussed with the New Mexico utility officials and we are working together to supply New Mexico and southern Colorado with sufficient electrical energy for the present and future needs.

STATEMENT PREPARED BY B. L. BATTISHILL, PRESIDENT, MORA-SAN MIGUEL ELECTRIC COOPERATIVE, INC., MORA, N. MEX.

Our contract for power to supply our more than 1,400 REA-connected members has been canceled as of September 15 this year, which is the expiration of our 5-year contract, as per letter from the supplier (the Public Service Co. of New Mexico) a copy of said letter is attached.

We are in a power short State, especially the northern part in which we are located. We have at this time only one source of power available, that is where we are now getting our power and as per letter attached, that has been canceled. We have arranged loan from REA to build a transmission line from Wagon Mound, N. Mex., a distance of about 42 miles, to obtain power from the Dawson plant that is operated by the REA Cooperative at Springer, N. Mex.

The plant at Dawson, N. Mex. is not expected to last more than about 5 years, at which time we will again be out of power unless we can arrange otherwise; we have therefore, been trying to arrange for permanent power at a price that our cooperative can afford to pay, and have contacted the Bureau of Reclamation, and after considerable negotiation have obtined their consent to try to help out in this shortage of power situation in northern New Mexico and southern Colorado, if they can obtain funds to do so, and we wish to urgently appeal to you to support us and the Bureau of Reclamation in supplying funds to make this possible.

We have demands that we supply power for war necessity mica and lumber industry, that we are unable to do at this time on account of shortage of power; this condition is very unsatisfactory to industry as well as many rural families; we feel that our brothers and sisters that live out in the country and work long hours are as much entitled to lights, power, and modern living as the man that lives in the large city that works less hours, and in no case is in any way more essential to our economy or war effort than is the farmer or rancher, the mining, or the lumber industry.

The writer had intended to make the trip to Washington to appear before you in this matter but on account of another important meeting here in our State it is impossible for me to be there, but I plead with you to supply the funds necessary to make these transmission lines possible and that are so badly needed.

PUBLIC SERVICE CO. OF NEW MEXICO,
LAS VEGAS DIVISION,
Las Vegas, N. Mex., April 26, 1951.

MORA-SAN MIGUEL ELECTRIC COOPERATIVE, INC.,
Las Vegas, N. Mex.

Attention: Mr. B. L. Battishill, president.

GENTLEMEN: On September 15, 1951, the first term of our contract with you dated March 19, 1946, under which we are furnishing you with service at a point near Las Vegas, will terminate if canceled by either party by 4 months' written notice.

This is to advise that we wish to avail ourselves of the privilege of canceling the agreement on September 16, 1951. As has previously been discussed, we are agreeable to working out a new arrangement to continue service for a short period of time, should construction of the facilities to enable you to obtain power from another source be delayed, and we will welcome an opportunity to discuss this matter with you.

The purpose of this letter is only to assure you that our contract with you will not be automatically renewed and thus commit both you and ourselves to an arrangement for a period of time that neither of us desire.

Very truly yours,

ROSS E. THOMPSON,
Division Manager.

NORTHERN RIO ARRIBA ELECTRIC CO-OP., INC., CHAMA, N. MEX.

PLAINS ELECTRIC GENERATING COOPERATIVE

Outline of power situation and future development of Northern Rio Arriba Electric Cooperative, Inc.

Manager: Mr. John T. Jordan—Chama, N. Mex.
Treasurer: Mr. Robert F. Brashar—Chama, N. Mex.

The Rural Electrification Administration approved the purchase of and accepted an acquisition of the Chama Light & Power Co. on October 31, 1949, comprising 35 miles of distribution line serving 435 members located and being the towns of Chama, Parkview, Tierra Amarilla, and the rural farm and ranch areas surrounding said towns. This included a power plant rated at 300 kilowatts. The plant was completely worn out but had to be used until new lines could be built from the Jemez Mountain Electric Cooperative of Espanola, N. Mex. This cooperative operated the existing plant and lines for 18 months at a loss of approximately $45,000.

The A section line was energized April 17, 1951, comprising one 100-kilowatt substation, one 1,500-kilowatt substation, 70 miles of 60-kilovolt transmission line, 200 miles of 14.4/24.9 distribution line, serving 800 members (650 members now connected with a demand of 800 kilowatts; 150 to be connected within 60 days—additional demand of 200 kilowatts). Total demand as of August 1, 1951, 1,000 kilowatts.

Our contract with the Espanola generating plant calls for 1,000 kilowatt firm power until a new plant or additional capacity can be added. As of August 1, 1951, the firm power demand for this cooperative will be reached. No additional consumers can be added until more power from the Espanola plant can be guaranteed.

Estimate for the year 1952 is as follows: C section construction, 50 members; additional capacity needed, 100 kilowatts. Work order construction, 50 members; additional capacity needed, 100 kilowatts. Small power users, rural, irrigation pumps, 150 kilowatts; commercial, two lumber mills, 300 kilowatts and two coal mines, 100 kilowatts. Total kilowatts to be added in 1952, 750 kilowatts. Total kilowatts demand, 1,750 kilowatts.

A permanent Army installation has been built in this community generating its own power. If firm power could be guaranteed, an additional demand of 300 kilowatts is needed. This is an Army radar station; part of a protective and training station for the Los Alamos Atomic Energy Commission.

On the basis of a 5-year period, or the year 1955, an estimated load of not less than 3,000 kilowatts will be in demand. This has been set up by our system study and has been approved by the engineers and the Rural Electrification Administration as part of the original feasibility study for this project.

The northern part of Rio Arriba County is an undeveloped section, not having heretofore any modern trend of conveniences. We are located 125 miles from the nearest public utility company in New Mexico which is Santa Fe. This area is now being developed. The chief industries and trades are as follows; 52,000 head of cattle are grazed and fattened for market during the summer months; 185,000 sheep are also grazed and fattened for market during the summer; approximately 1,500,000 pounds of wool is shipped yearly from Chama, and ranching is depending more and more on electricity. Lumber is a large industry. There are five large mills located here now, all contributing to the lumber emergency. Coal mining is another large industry. Both the mills and coal mines will be run by electricity as soon as sufficient power is granted.

A critical power shortage now exists in this area and will continue to exist and become more serious in the future unless a firm and dependable source can be granted to further develop this rural area.

NORTHERN RIO ARRIBA ELECTRIC CO-OP INC.,
Chama, N. Mex.

STATEMENT OF HON. JAMES E. MURRAY, UNITED STATES SENATOR FROM THE STATE OF MONTANA

BILLINGS-YELLOWTAIL TRANSMISSION LINE

Senator MURRAY. Mr. Chairman, I am appearing today with reference to certain transmission lines in Montana which are considered to be of very vital importance. The people in our State are greatly distressed over learning about the elimination of the estimate of $810,000 for the Billings-Yellowtail 115-kilovolt transmission line from the Bureau of Reclamation's program for fiscal year 1952. This is an area where there is a great scarcity of power, and it is a very important section of the State that has been growing rapidly.

DEVELOPMENT OF CHROME

There is great oil development in that section. To show you how important this is and how unfortunate it was that we didn't have power there at the commencement of World War II, we have huge deposits of chrome in Montana that could be developed. But we had to ship that chrome ore by freight all the way to Pittsburgh and Niagara Falls because we had no plant there that could treat it. We were all ready to build a plant there in the section where these chrome ores are located, but we didn't have the power. We didn't have the power in the State of Montana, and even if we had we didn't have the transmission lines to carry it to this area.

Now, a big concern is coming into Montana and is establishing a small plant preliminary at a place at the east end of the State. It will be established at either Miles City or Glendive or Sidney. It will, of course, have to start very small because there won't be sufficient power to operate on a large scale. This power line that we are talking about here, the $810,000 item, for the Billings-Yellowtail 115-kilovolt transmission lines is very, very important.

Senator CHAVEZ. Senator, did I understand you to say that the budget estimate was for that amount?

Senator MURRAY. Yes.

Senator CHAVEZ. And the House turned it down?

Senator MURRAY. Yes. They turned it down in the House. That is right, is it not, Mr. McPhail?

Mr. MCPHAIL. That is correct, Senator.

Senator MURRAY. This transmission line is required for fiscal year 1953 in order to help in meeting the developing power shortage in the Big Horn Basin. It is estimated that by 1953 a deficiency of 100,000,000 kilowatt-hours will exist in that basin. Construction of the Yellowtail-Billings line must be started in fiscal year 1952 since the line is a fundamental factor needed to meet the 1953 energy requirements.

In addition, this line will eventually be a part of the backbone system of the Missouri River Basin transmission system and will also serve to supply a portion of the construction power requirements at the Yellowtail Dam site when construction begins there. After the dam and power plant are completed, this line will bring the power from Yellowtail power plant out to Market.

Therefore I suggest that the action of the House in eliminating this item is a very serious matter and that their action should be reconsidered and this amount restored.

MILES CITY-YELLOWTAIL TRANSMISSION LINE

Another item I would like to comment on is the "Miles City-Yellowtail transmission line." The Appropriations Committee of the House, in eliminating funds for the Miles City-Yellowtail 115-kilovolt transmission line, has seriously impaired the needed integration of power plants in the Missouri River Basin project. This integration of Yellowtail-Billings area with the Fort Peck and North Dakota systems will be needed not only to make more efficient the developments at Fort Peck, Yellowtail, and North Dakota plants but will make firm power more widespread to serve all of eastern Montana and western North Dakota. It will also stimulate much-needed development in these areas.

Now, you must remember that this is a vast section of the country out there, and they have gone so far without any power development. The result has been that we have been losing population. Montana is the third largest State in the Union, but for the past 40 years it has been going down in population because it hasn't developed any industry. With this power we can develop industries that are not only very important to our mountain economy but to the economy of the Nation because it will enable us to develop vital industries that will serve the national defense.

For instance, there is this chrome that I have just mentioned. Also we are developing an aluminum plant in Montana, and there is also a great expansion in the production of manganese, which is so essential to the national defense.

The Miles City-Yellowtail 115-kilovolt transmission line is part of the over-all backbone transmission system interconnecting the Federal power plants in the Missouri Basin. It will interconnect Yellowtail with the Fort Peck and Garrison, N. Dak., power systems; and, in turn, will be a link in the interconnection of those systems with the Bureau's interstate system in the Big Horn Basin in Montana and with other Wyoming systems to the south. The interconnection with Fort Peck will allow Fort Peck and Yellowtail output to be pooled and integrated with each other.

The Fort Peck plant needs integration with additional capacity to most efficiently generate the total potential hydro energy at this dam

and to prevent or minimize bypassing water through the spillway. By integrating the output of the two plants, it will make possible the sale of much larger amounts of firm energy and minimize secondary or dump energy. Neither the Montana Power Co. nor the Montana-Dakota Utilities Co., the two power companies in the area, have any lines between Yellowtail and Miles City or other points in eastern Montana served with Fort Peck power that could perform the functions of this Miles City-Yellowtail line.

In fact, they have no high-voltage transmission lines in the area. Funds are requested at this time only for investigations and surveys, which are essential to proper planning and programing. The program of construction is to be timed with the initial generation of power at Yellowtail. However, the Miles City-Sanders section should be constructed in fiscal year 1953 to provide much needed and adequate service for the Mid-Yellowstone Electric Cooperative and the State Water Conservation Board irrigation project near Meyers, Mont., with Fort Peck power. These facilities are at present served inadequately through the Bureau's temporary Forsyth substation under a wheeling arrangement with Montana-Dakota Utilities Co.

This temporary arrangement is becoming unsatisfactory as the power company's lower voltage lines in the area are becoming loaded to such an extent that these customers are faced with less and less reliable service. Additional irrigation development and REA expansion above Miles City depend upon an adequate supply of power, and this line is the only practical means in which it can be accomplished.

Therefore I respectfully submit to this committee that the action resulting in the elimination of this line from the 1952 fiscal year program should be reconsidered and the amount of $85,000 for this work on this line be restored.

AMENDMENTS TO THE RECLAMATION BILL

I would like next to comment briefly on two amendments to the reclamation bill, which I feel are not in the best interests of our western development and expansion. Certainly in my State of Montana these amendments have a deteriorative effect on our growth and expansion and impair materially Montana's contribution to the defense effort. I refer to the Taber amendment and the Keating amendment.

EFFECT OF TABER AMENDMENT

Under the Taber amendment, assuming an equal percentage reduction, my State of Montana will suffer a reduction of approximately $1,600,000 in the reclamation program for the fiscal year 1952—$600,000 of this reduction will apply toward power facilities of the Fort Peck, Hungry Horse, and Canyon Ferry projects.

As you know, these projects are vitally important from a defense standpoint as well as to the growth and expansion that we need in Montana; $58,000 of this reduction will apply toward the Crow Creek, Cartwright, Sadie Flat, and Sidney irrigation units, which are to be fundamental factors in Montana agriculture.

I say, Mr. Chairman, in all sincerity that an economy move of this type which strikes directly at the heart of our Nation in such troubled times as these should not be allowed to stand. I respectfully request

that this amendment be stricken from the bill and let these reclamation people continue unhampered by such restrictions on a program which, I believe, is designed to render the utmost benefits to our western economy.

KEATING AMENDMENT

The Keating amendment could well be a product of the devil's workshop. This amendment, as I interpret it, would mean that the Bureau of Reclamation has its hands tied when it comes to complying with the reclamation law. The damage that results immediately from the amendment is considerable, but from a long-range point of view the situation may be even worse.

Take, for instance, the Canyon Ferry-Montana Power Co. tie line. The Bureau of Reclamation entered into a contract with the company under which the Bureau is to build lines from its Canyon Ferry power plant to the point of interconnection with the company near East Helena, and can then use the company's lines to Great Falls. Unless the Bureau can hurry and get that line under construction, the Keating amendment will eliminate it.

As a result, the contract with the Montana Power Co. will have been only an idle gesture. It puts the Bureau in a predicament that can best be described as over a barrel.

A little different situation results on the Fort Peck project. The Glendive-Williston transmission line running southwest from Williston, N. Dak., to Glendive, Mont., will be eliminated from the Bureau's program unless construction is under way before July 1, 1951. That line serves irrigation developments along its entire length, and these developments are absolutely necessary as a part of the Fort Peck project. Arequate transmission facilities are not available in the area, although a wheeling contract with the Montana-Dakota Utilities Co. is in existence.

Furthermore, substations at Cartwright, Sidney, Sidney extension, and Savage will be eliminated.

GENERAL PROVISIONS, 1950 APPROPRIATION ACT

Mr. Chairman, another facility the Keating amendment prohibits is the Crow Creek substation to serve the Crow Creek unit, Three Forks subdivision. Let me read what we wrote in the 1950 Appropriation Act. At page 19 of the bill the following language appears:

Provided further, That no part of this appropriation shall be available or used to maintain or operate Canyon Ferry Reservoir at a higher maximum normal pool elevation than 3,765 feet, unless and until new land in Broadwater County, Mont., equal in acreage to the irrigated land to be inundated in Canyon Ferry Reservoir above elevation of 3,765 feet is provided with facilities for irrigation; or for or in connection with the acquisition of the power facilities or transmission facilities for delivering power from the Canyon Ferry project, Montana.

The Crow Creek unit is the replacement for the inundated land in Canyon Ferry Reservoir above elevation 3,765 as written in that language. The wheeling contract with the Montana Power Co. is useless insofar as getting power to the Crow Creek pumping plant without the substation at Crow Creek.

I feel that the Keating amendment should be stricken from this bill and that we should let the Reclamation people proceed unhampered by such language with what, I feel, is a good, solid program for the development of our western resources.

TRANSFER OF FACILITIES ON FORT PECK PROJECT

I would like to mention one more item, if I may, Mr. Chairman. That is in regard to transfer of facilities from the Department of the Army to the Department of the Interior on the Fort Peck project. Both Interior and Army have reached an agreement on the transfer of the Fort Peck-Rainbow 161-kilovolt line and Rainbow terminal facilities, and the Fort Peck-Whateley 50-kilovolt transmission line. The Corps of Engineers is now burdened with unnecessary accounting expenses in connection with these facilities which it does not use or operate and which can be eliminated by this transfer. This is merely an exchange of custody without a transfer of funds, and since the Bureau of Reclamation is the marketing agency for power generated at Fort Peck power plant, it is only logical that the Bureau should be responsible for these transmission facilities.

Senator HAYDEN. Do I understand that the House prohibited that?

Senator MURRAY. Yes, that was cut out in the House.

Senator HAYDEN. Is that the situation?

Mr. MCPHAIL. I understand, Mr. Chairman, that it was taken out on a point of order as being legislation in an appropriation bill.

Senator HAYDEN. But not under the House committee?

Mr. MCPHAIL. No, sir.

Senator MURRAY. Now, Mr. Chairman, I think it would be a great misfortune to eliminate these very important facilities in Montana at this time.

EXCERPT FROM HOUSE REPORT

Senator HAYDEN. All I can find out about it, Senator, is what appears on page 13 of the House report. The report states, under the caption "Missouri River Basin project," the following:

> The action of the committee in reducing the estimate for the transmission division of the Missouri River Basin project from $18,709,640 to $14,963,300 includes specific denial by the committee of the following project items:

The first one is listed as "Canyon Ferry-Great Falls 115-kilovolt line and substation, $753,450." I would like to ask Mr. McPhail about each one of these. What can you say about the first one, Mr. McPhail?

Mr. MCPHAIL. That first one, Mr. Chairman, was eliminated with the agreement of the Bureau because we were able, under our wheeling agreement with Montana Power Co., to get the service and did not require the line.

Senator HAYDEN. Now, that is the first one. Here is the second one: "Canyon Ferry-Three Forks-Anaconda 115-kilovolt lines and substations, $703,000."

Mr. MCPHAIL. That was eliminated with the agreement of the Bureau because of the wheeling contract with the Montana Power Co.

Senator HAYDEN. Well, the next one is the one that Senator Murray has specifically mentioned, "Miles City-Yellowtail 115-kilovolt lines and substations, $85,000."

Mr. McPHAIL. That money was only for surveys and designs, Mr. Chairman. There was no reason given why that was eliminated.

Senator HAYDEN. Do you need the money immediately?

Mr. McPHAIL. Yes, sir. We should carry on the survey and design work, this next year on that line.

Senator HAYDEN. Then the next one is "Yellowtail-Billings 115-kilovolt lines and substations, $810,000."

Mr. McPHAIL. That was also eliminated without explanation. That line is required for two purposes at this time. One is to form an interconnection with the northern Wyoming area so that relief in connection with power supply can be given to that area; and, secondly, to provide construction power for Yellowtail Dam when that dam goes into construction.

Senator HAYDEN. Well, Yellowtail Dam is not authorized at the moment. What I was trying to get at was whether you have immediate need for a line beyond that?

Mr. McPHAIL. The immediate need of a line beyond that is to be able to transmit power into northern Wyoming to relieve the short power situation in that area.

Senator MURRAY. There is a very large deficiency in that area.

Mr. McPHAIL. There is, that is true. There is a deficiency, and it has a direct impingement upon our defense effort in that it affects the production of oil.

Senator HAYDEN. How so?

Mr. McPHAIL. We have a large number of pumping loads, both pipeline and field loads in that area that depend upon the power supply. It has become very short of power.

Senator HAYDEN. Do you mean there is oil there that they pump?

Mr. McPHAIL. Yes, sir.

Senator HAYDEN. Now the remainder of them are not in Montana. There is first the "Sioux City-Omaha line, $207,463."

Mr. McPHAIL. As to the other three—and I might mention them all together—they are all in western Iowa, and they were eliminated without additional explanation in the House committee report. They are being advocated by the Bureau as a means of providing early power supply to various preference customers in the western part of Iowa.

Senator HAYDEN. I was under the impression that there were three or four transmission lines coming into Iowa and suitable wheeling arrangements had been made with the private power companies, but that there was one line that was not in the bill that they are all anxious to have built.

Mr. McPHAIL. We have no wheeling contracts in that area nor are there existing transmission lines that would provide reasonable service under the wheeling contracts. The one line that was allowed in the House is the line from Fort Randall to Sioux City, Iowa. These lines that have been eliminated are lines which radiate from Sioux City in the various parts of western Iowa.

Senator HAYDEN. If the public bodies that are entitled to preference had agreed with private power companies in that area that these lines were not necessary because the private power company would wheel their power, then there wouldn't be any need for building them, would there?

Mr. McPHAIL. That is true if they had agreed and if there were facilities with which to do the job.

Senator HAYDEN. I wish you would find out about that and give us the information as to what is the present situation with respect to the Fort Randall line that you mentioned that everybody wants.

Mr. McPHAIL. Yes, sir.

Senator HAYDEN. That is the main backbone transmission line. These were shorter and smaller lines in Iowa.

Mr. McPHAIL. That is right, with the exception of one line that we skipped in going through this list. It is indicated as the Sioux City-Omaha line. Part of that is in Iowa just because of location, but primarily it is a line to extend the Fort Randall-Sioux City line down to Omaha to provide service to the Omaha public power district, the largest power producer and user in the State of Nebraska.

Senator HAYDEN. Then the Iowa folks are not interested in that line apparently except that it crosses part of the State.

Mr. McPHAIL. It crosses part of the State because it is a continuation of a line from Sioux City. I don't know just where it will cross the Missouri River to go back into Nebraska, but some place south of Sioux City.

Senator HAYDEN. The remainder of these lines are, first, the "Storm Lake-Dennison-Holland-Omaha line, $30,624," secondly, the "Sioux City-Sibley line, $467,643," and then there is an item of additional reduction of $500,490, which it is indicated is not to eliminate any specific project items. That is a reduction that you would have to distribute over the entire area.

Mr. McPHAIL. That is right.

Senator HAYDEN. We will discuss that when the time comes.

While Senator Murray was here, I wanted to go into these matters that he has brought up specifically to the attention of the committee.

Senator Murray, is there anything further that you want to say?

Senator MURRAY. I understand that there is no other transmission line from Billings to Yellowtail Dam; is that right?

Mr. McPHAIL. That is correct, Senator.

Senator MURRAY. And this is an area where there is going to be more need for power on account of the developments that are going on there. In addition, these lines to connect up Miles City with the Fort Peck Dam form a very important transmission line also in connection with the development of chrome industry in the State which is about to take place.

Mr. McPHAIL. It is, Senator Murray, important for that reason and also it is important because it is a major backbone interconnection between Yellowtail Dam, Fort Peck project, and other developments in the Missouri Basin.

Senator MURRAY. This chrome development is a very, very important matter. There is a large internationally known concern coming into Montana that can now develop those chrome properties there without any Government subsidy with the new technological methods. They have a chrome plant up in Sault Ste. Marie, and they bring their chrome ore up all the way from Africa into Canada and treat it there at a profit. They claim that these vast deposits that we have in Montana would meet a great national-defense need. It is very important.

Senator HAYDEN. Thank you, Senator Murray.

SOUTHEASTERN POWER ADMINISTRATION

CONSTRUCTION

STATEMENTS OF CHARLES W. LEAVY, ACTING ADMINISTRATOR, SOUTHEASTERN POWER ADMINISTRATION; EDWARD P. EARDLEY, CHIEF ENGINEER, DIVISION OF WATER AND POWER, OFFICE OF THE SECRETARY, DEPARTMENT OF THE INTERIOR; A. D. BURT, BUDGET AND FINANCE OFFICER, SOUTHEASTERN POWER ADMINISTRATION; AND D. D. LAMB, CHIEF, SYSTEM ENGINEERING AND PLANNING, SOUTHEASTERN POWER ADMINISTRATION

AMOUNT REQUESTED

Senator HAYDEN. We will now take up the Southeastern Power Administration appearing on page 2 of the bill.

For "Construction" the 1952 estimate is $4,000,000, and the House committee allowed $3,400,000. The entire item went out of the bill on the House floor.

JUSTIFICATION

The Department is requesting that the item be restored to the bill in the amount of $652,500, which is $3,347,500 under the estimate. I will place the justification in the record at this point, together with a table showing the transmission lines included in the budget estimate and the lines the Department is requesting to be restored.

(The information referred to is as follows:)

CONSTRUCTION, SOUTHEASTERN POWER ADMINISTRATION

(Estimate, $4,000,000; act 0+$1,850,000 supplemental)

(House hearings, p. 1, pp. 85–117)

(P. 2, after line 6)

Page 2, after line 6, insert the following:

"CONSTRUCTION, SOUTHEASTERN POWER ADMINISTRATION

"For construction and acquisition of transmission lines, substations, and appurtenant facilities, and for administrative expenses connected therewith, in carrying out the provisions of section 5 of the Flood Control Act of 1944 (16 U. S. C. 825s), as applied to the southeastern power area, $652,500, to remain available until expended."

HOUSE REPORT

"Construction, Southeastern Power Administration: An appropriation of $4,000,000 was requested for a program covering the construction of transmission facilities in conjunction with the marketing of Federal power generated at hydroelectric projects being developed by the Department of the Army in the Southeastern States. The 1952 program included transmission facilities for power from two river basins and the preparation of plans and specifications for the future program of the agency. The committee recommends an appropriation of $3,400,000, representing a reduction of $600,000 below the estimate.

"The program for the Roanoke River Basin involves a continuation with some enlargement, of the program already approved during the last Congress. The committee has approved an appropriation of $3,300,000 which covers funds for continuing the transmission line from Buggs Island Dam to Suffolk, Va., and from Suffolk to Langley Field, Va. All of the facilities listed by the Southeastern Power Administration for the Roanoke River Basin program are approved except a line proposed from Suffolk to Gatesville, N. C. The latter line is denied.

"The Savannah River Basin program which proposed approval of 15 trans-

mission lines has been denied entirely by the committee. This is not to be construed as denial of the right of preferred customers to the power and energy to be generated in the Savannah River Basin, or necessarily as permanent denial of Government facilities for transmitting such power to preferred customers. Representations were made to the committee that arrangements can be worked out for utilizing privately owned transmission facilities so as to enable preferred customers to obtain the power and energy to be available from Savannah River Basin generating plants. All parties should make every effort toward that end so that there will be no discrimination with respect to the preferred customers in the area adjacent to the Savannah River Basin.

"Thus, no appropriation has been approved for the Savannah River Basin program.

"The estimate of $100,000 has been approved in full to provide for plans and specifications for the future program."

JUSTIFICATION

The amendment restores $652,500 of the $4,000,000 reduction made by the House in the budget estimate for this appropriation. This amount is distributed to activities as follows:

Activity	Appropriated, 1951	Budget estimate, 1952	House bill, 1952	Restoration requested
NEW CONSTRUCTION				
(a) Roanoke River Basin	$1,850,000	$3,406,200	0	$130,200
(b) Savannah River Basin		493,800	0	422,300
(c) Plans and specifications for future program		100,000	0	100,000
Total	1,850,000	4,000,000	0	652,500

A breakdown of the restoration by objects of expenditure follows:

Personal services	$296,200
Travel	103,100
Supplies	51,100
Lands and structures	202,100
Total	652,500

(*a*) Restoration of $130,200 for the Roanoke River Basin will permit scheduled construction of the following features:

Buggs Island-Virginia Electric Power Co. interconnection.—This line will provide a delivery point for the sale of surplus Government-generated power to the Virginia Electric Power Co. in the vicinity of Buggs Island Dam.

Buggs Island-Kinston.—This feature will provide points of service at Rocky Mount, Goldsboro, and Kinston to supply the power needs of the Eastern North Carolina Electric Membership Corp., a group representing 11 North Carolina REA cooperatives. This cooperative embraces roughly an area in North Carolina lying east of a line southward from Buggs Island through Raleigh and Ingold, N. C. In addition, this facility will serve the purpose of integrating the municipal systems of Rocky Mount, Wilson, and Kinston with the Government's system to the mutual advantage of the Government and the towns. It will permit the maximum utilization of existing generating capacity and will provide power to meet the growing needs of the municipalities.

Philpott-Appalachian interconnection.—This feature will provide an interconnection with the Appalachian Power Co. which will provide maximum benefits of integrated operation.

(*b*) Restoration of $422,300 for the Savannah River Basin, eliminated by House action, will permit the scheduled construction of the following essential facilities:

Clark Hill-Greenwood 115-kilovolt line.—The Southeastern Power Administration has entered into a contract for the delivery of power to the Greenwood County Electric Power Commission, a preference customer. The initial amount of power is 5,000 kilowatts to be increased to 30,000 kilowatts. In order to meet

delivery requirements construction of this facility must be initiated in fiscal year 1952.

Clark Hill-Batesburg 115-kilovolt, Clark Hill-Aiken 115-kilovolt, and Clark Hill-Hartsville 230-kilovolt lines.—The South Carolina Public Service Authority, a preference customer, has made application for 40,000 kilowatts of firm power to be delivered to them as soon as it is available. Contract negotiations have been carried forward and a definitive contract should be signed in the near future. This feature will provide service through South Carolina Public Service Authority to 16 REA co-ops. In order to provide this service to these preference customers it is necessary that work start on three lines to deliver power at the three points requested, namely, Aiken, Batesburg, and Hartsville, S. C.

(*c*) Restoration of $100,000 for plans and specifications for future program will permit engineering power-marketing investigations in advance of specific appropriations for construction. This work includes reconnaissance and preliminary surveys, investigation, design, and advance studies of facilities for disposal of power from Corps of Engineers' projects to preference customers and including integration of facilities with existing systems.

Southeastern Power Administration

Statement of appropriations, budget estimates, fiscal year 1952, and House and Senate action on estimates

Feature	Total estimated Federal cost	Amount appropriated, fiscal year 1951	Amount appropriated to date	Budget estimate, fiscal year 1952	Amount allowed by House	Restoration requested by Department	Amount recommended by Senate committee
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Roanoke River Basin:							
Buggs Island-Suffolk, 115 kv	$4,775,500	$1,200,000	$1,200,000	$1,964,000	.....	.....	.....
Suffolk-Langley Field, 115 kv	2,095,000	650,000	650,000	1,250,000	.....	.....	.....
Langley Field-V. E. P. Co. Inter	127,900	.....	.....	6,000	.....	.....	.....
Suffolk-Gatesville, 115 kv	862,200	.....	.....	50,000	.....	.....	.....
Suffold-V. E. P. Co. Inter	127,200	.....	.....	6,000	.....	.....	.....
Buggs Island-V. E. P. Co. Inter	93,300	.....	.....	3,200	.....	$3,200	.....
Buggs Island-Rocky Mount, 115 kv	1,108,600	.....	.....	60,000	.....	60,000	.....
Wilson-Rocky Mount, 115 kv	906,300	.....	.....	15,000	.....	15,000	.....
Goldsboro-Wilson, 115 kv	1,110,700	.....	.....	24,000	.....	24,000	.....
Goldsboro-Kinston, 115 kv	996,100	.....	.....	24,000	.....	24,000	.....
Philpott-Appalachian Inter	4,000	.....	.....	4,000	.....	4,000	.....
Subtotal, Roanoke River Basin	12,206,800	1,850,000	1,850,000	3,406,200	.....	130,200	.....
Savannah River Basin:							
Clark Hill-Greenwood, 115 kv	1,068,900	.....	.....	325,000	.....	325,000	.....
Clark Hill-Batesburg, 115 kv	880,800	.....	.....	37,000	.....	37,000	.....
Clark Hill-Aiken, 115 kv	718,500	.....	.....	35,300	.....	35,300	.....
Clark Hill-Augusta, 115 kv	432,800	.....	.....	21,500	.....	.....	.....
Clark Hill-Hartsville, 230 kv	4,385,400	.....	.....	25,000	.....	25,000	.....
Clark Hill-Macon, 230 kv	3,344,100	.....	.....	25,000	.....	.....	.....
Macon-Barnesville, 115 kv	2,098,900	.....	.....	25,000	.....	.....	.....
Subtotal, Savannah River basin	12,929,400	.....	.....	493,800	.....	422,300	.....
Preliminary engineering studies	(1)	.....	.....	100,000	.....	100,000	.....
Total	25,136,200	1,850,000	1,850,000	4,000,000	.....	652,500	.....

[1] Included in the total estimated cost of the river basins.

PREPARED STATEMENT

Senator HAYDEN. Mr. Leavy, you are Acting Administrator?

Mr. LEAVY. That is right, Senator.

Senator HAYDEN. We have here your prepared statement. Do you desire to read it or will you file it?

Mr. LEAVY. I would like to high light it and also explain in a little more detail some of the matters mentioned in it.

Senator HAYDEN. Your statement will be included in the record.

(The statement referred to is as follows:)

STATEMENT OF CHARLES W. LEAVY, ACTING ADMINISTRATOR, SOUTHEASTERN POWER ADMINISTRATION

The Southeastern Power Administration is the Interior Department marketing agency for power generated at reservoir projects under the control of the War Department in the 10 Southeastern States. The agency was established in March of last year.

Section 5 of the Flood Control Act of 1944 stipulates the conditions under which the power shall be marketed. The law requires Southeastern (1) to give preference in the sale of power to public bodies and cooperatives, and (2) to transmit and dispose of the power (a) in such a manner as to encourage the most widespread use (b) at the lowest possible rates to consumers (c) by constructing or acquiring by purchase or other agreement, only such facilities as may be necessary in order to make the power available for sale on fair and reasonable terms.

Generation of new power not already marketed will next occur at two of the largest projects now under construction: the Clark Hill project on the Savannah River, which has an ultimate capacity of 280,000 kilowatts, and the Buggs Island project on the Roanoke River, which has an ultimate capacity of 204,000 kilowatts. It will begin in October of 1952. The very limited period of time which remains before generation will begin creates a most urgent need for the immediate provision of means for power disposal. Three months after the end of the 1952 fiscal year here under consideration there will be power awaiting disposal at the two projects. In practical effect, there remains only the coming fiscal year within which to begin a provision of the necessary means.

Under the conditions which surround these two projects, the requirements of law and the interests of the Government will be best served by the construction of Government-owned facilities with which to perform the initial movement of the new power away from the power plants to load centers in areas of greatest power need. Circumstances require this procedure for the initial movement of the power as a safeguard to preference agency entitlements and to insure that the power will be available for sale on fair and reasonable terms.

It is to be seen that the new blocks of power coming on the market from Clark Hill and Buggs Island at the conclusion of next fiscal year are of considerable size. By and large, the high voltage transmission capacity required for the initial movement of these large blocks of new power from the power plants to load centers does not now exist. Existing privately owned backbone facilities are well occupied with the transmission of privately owned power, the work which they were designed to perform long before there was any necessity for the transmission of Southeastern's power. The limited amount of marginal capacity that does exist is inadequate to the quantities of Southeastern power to be moved, and because of the location of the facilities in which it is to be found it bears no relationship to Southeastern's task of initial power movement.

There are privately owned facilities now in existence which do have a value to the final disposal of Clark Hill and Buggs Island power. They are the facilities which exist between load centers and the Government's preference agency customers. Southeastern wants to use them, and has from the outset made every effort to obtain their use through proper wheeling agreements compatible with the conditions imposed by law. Such use of them has been denied.

Clark Hill and Buggs Island are surrounded by five private power companies. Only one of the five, the Virginia Electric & Power Co., has consented to give consideration to wheeling as such, and that consent has been rendered meaning-

less by the company's insistence on an amount of compensation for the service which would leave Southeastern unable to make the power available for sale on fair and reasonable terms. The remaining four companies have refused to consider wheeling at all. Instead, they have insisted on an exclusive consideration of offers they have made to buy Southeastern's power at the bus bars of the power plants and resell it to the preference agencies as company customers. There exists an impression that the companies have offered to wheel power for the Government. The impression is a false one. Their offers provide merely that they shall take ownership of the power at the power plant bus bars, subject it to the rate determination of their local regulatory bodies, and at a profit resell it to the preference agencies as company customers. Southeastern has rejected these offers and explained that their acceptance would be a clear violation of law and expressed congressional policy. Although Southeastern has made clear its desire to participate in proper wheeling agreements, the companies have nevertheless continued in their insistence that their own proposals shall be the only subject of consideration.

The one element of greatest significance today in the circumstances surrounding the disposal of Clark Hill and Buggs Island power is the fact that no private power company facility is available to the Government for wheeling. In the face of this situation, any discussion of the relative ability of one privately owned facility or another to be of value in the disposal of Southeastern's power becomes an empty and academic matter.

In these circumstances Southeastern's ability to meet its existing power sales commitments and continue the basic power marketing program depends entirely upon the funds which are here requested for restoration to its budget for 1952. The sums requested for restoration will provide the transmission facilities needed to carry out existing agreements in the Roanoke and Savannah River Basins, and make possible a formulation of plans and specifications for the future program of the agency.

There are many areas in the Southeast which need an additional power supply. One of the areas of most critical power shortage is the coastal plain of eastern North Carolina. Expressions of interest in securing a power supply from Buggs Island have been repeatedly volunteered to the Department of the Interior since 1945. Ten municipalities and thirteen REA Cooperatives in eastern North Carolina have made formal application to Southeastern for power from the Buggs Island project. Southeastern has committed itself to a delivery of the power required.

The Roanoke River Basin facilities for which funds are requested in fiscal year 1952 are required to meet this commitment. The line from Buggs Island to Kinston will provide points of service to REA cooperatives and make power available to municipalities. It will serve the additionally important purpose of immediately integrating the Buggs Island power plant with the large municipal plants of Rocky Mount, Wilson and Kinston, and provide for future integration with other municipal plants in the area. This will make possible a maximum utilization of existing generating capacity, and produce greater power benefits for both the municipalities and the Government.

Two preference customers of key importance to the marketing of Clark Hill power are the Greenwood County Electric Power Commission and the South Carolina Public Service Authority. Both operate generation and distribution facilities in South Carolina—the former in four counties of the State, the latter on a State-wide basis. Both supply power to REA Cooperatives and municipalities. By delivering power to them, Southeastern is able with a minimum of contractual arrangement to furnish power to a large number of other preference agencies. Sixteen REA cooperatives participate in power supply arrangements with the South Carolina Public Service Authority alone.

The Commission and the Authority applied for Clark Hill power more than 3 years ago. Their applications were among the first to be given consideration by Southeastern. Contract negotiations with both agencies were begun shortly after Southeastern was established. A contract has been signed with the Commission. Negotiations are in the final stages on a contract with the Authority based on a formal memorandum of understanding between the Authority and Southeastern.

The Savannah River Basin facilities for which funds are requested in fiscal year 1952 are required to meet these commitments. There are, moreover, circumstances which give additional urgency to the need for a restoration of these funds. Both customers have based their own plans on power deliveries by Southeastern over these facilities. To carry out their own responsibilities under their

agreements with Southeastern they have obligated funds, ordered equipment appropriate to the receipt of power deliveries over the planned facilities, and secured options for the purchase of substation sites at the agreed upon points of delivery.

Power disposal from the Clark Hill and Buggs Island projects is only the next most immediate phase in the discharge of Southeastern's power marketing responsibilities. The agency must now plan also for the disposal of power from three other projects under construction at which power is scheduled to flow in 1955 from an ultimate generating capacity of more than 400,000 kilowatts, and prepare for the marketing of approximately one million kilowatts of ultimate generating capacity which will come into being at fourteen projects in the authorized category. Restoration is requested of funds with which to provide the engineering planning an investigation required as the basis of a sound future program which will carry out the responsibilities of the agency under the law.

CLARK HILL AND BUGGS ISLAND PROJECTS

Mr. LEAVY. I would like to preface my remarks by explaining the reason for my appearance here. Mr. Creim, who is Administrator of the Southeastern Power Administration, has been seriously ill for the past several months and has been unable to participate in these hearings. We, of course, have missed his advice and experience a great deal in preparing for this presentation; and I hope our presentation will not suffer too seriously from his absence. We do want to try and give a full and complete statement of the facts and reasons that have impelled us to ask for these items in our budget.

The Southeastern Power Administration is the Interior Department's marketing agency for power generated at reservoir projects under the control of the War Department in the 10 Southeastern States. The agency was established in March of last year.

I know that members of the committee are fully familiar with section 5 of the Flood Control Act of 1944. Section 5, of course, is the statutory authority for our operations, and sets forth the policies which we must follow.

KILOWATT CAPACITY

The generation of new power not already marketed will next occur at two of the largest projects now under construction: The Clark Hill project on the Savannah River, which has an ultimate capacity of 280,000 kilowatts, and the Buggs Island project on the Roanoke River, which has an ultimate capacity of 204,000 kilowatts. Both of these plants are scheduled to commence in October of 1952. The very limited period of time which remains before that date creates the most urgent need for immediate means of providing for the disposal of the power.

It is to be seen that the new blocks of power coming on the market from Clark Hill and Buggs Island at the conclusion of the next fiscal year are of considerable size. By and large the high-voltage transmission capacity required for the initial movement of these large blocks of new power from the power plants to load centers does not now exist. Existing privately owned backbone facilities are well occupied with the transmission of privately owned power, the work which they were designed to perform long before there was any necessity for the transmission of Southeastern's power.

The limited amount of marginal capacity that does exist is inade-

quate to the quantities of Southeastern power to be moved, and because of the location of the facilities in which it is to be found it bears no relationship to Southeastern's task of initial power movement.

WHEELING CONTRACTS

There are privately owned facilities now in existence which do have a value to the final disposal of Clark Hill and Buggs Island power. They are the facilities which exist between load centers and the Government's preference agency customers. Southeastern wants to use them, and has from the outset made every effort to obtain their use through proper wheeling arrangements compatible with the conditions imposed by law. Such use of them has been denied.

I would like to depart a moment from this statement to point out that the facilities with which you are concerned in this hearing are all facilities which, if constructed, would still be consistent with the use of private power facilities between load centers and the preferred agencies. All of these facilities are facilities from the power plants to load centers of both public and preferred agencies, and each of the five lines which are involved here could deliver power into private power companies' systems for their own use, for integration of facilities and for wheeling to the preferred customers.

Senator ELLENDER. And Clark Hill and Buggs Island are the only sources of public power in the Southeastern Authority's area?

Mr. LEAVY. No, Senator. There are three projects now in operation, two of which are in the Cumberland Basin. The power from those two projects and the power from one other project now being constructed is being disposed of to the TVA, and they take care of that through their system. There is also the Allatoona project.

Senator ELLENDER. That was my impression. That will remain under the jurisdiction of the TVA, will it not?

Mr. LEAVY. As far as the actual marketing is concerned, that is correct.

Senator ELLENDER. So that you have no jurisdiction over that public power, although it is within your area. TVA is going to continue to handle that public power?

Mr. LEAVY. Yes, they will handle it in their service area.

WHEELING CONTRACT, ALLATOONA PROJECT, GEORGIA

There is another project, the Allatoona project, which is located in the State of Georgia and which is in operation. That power is presently being sold to the Georgia Power Co. with the right of withdrawal up to an amount of 2½ million kilowatt-hours a week for service to preferred agencies.

Senator ELLENDER. When was that dam put in by the Government?

Mr. LEAVY. That went into operation in February of 1950.

Senator HAYDEN. My understanding is that in that case you do have a satisfactory wheeling contract with the Georgia Power Co.?

Mr. LEAVY. No, Senator, we do not. That contract does not provide for wheeling, and we have made repeated efforts to secure wheeling to certain Federal establishments and defense agencies from the Georgia Power Co. To date they have, however, been unwilling to

wheel any Allatoona power for us, and, of course, we have no other means to get it to Federal agencies and other preferred agencies.

Senator HAYDEN. Then what is happening to the power that is being generated?

Mr. LEAVY. It is simply going into the Georgia Power Co. system.

POWER RATES

Senator ELLENDER. At what rate?

Mr. LEAVY. What is that rate, Mr. Eardley?

Mr. EARDLEY. The rate is the yearly charge for the capacity plus an energy charge depending on when it is taken out, on off-peak or on-peak, Senator. I have forgotten the exact figures, but it would be the same rate as that for preferred customers.

Senator ELLENDER. Are the preferred customers obtaining from the Georgia Power Co. a rate similar to that which you would charge?

Mr. EARDLEY. I would say that the difference between what the preferred customers are paying the Georgia Power Co. and what we are getting out of that power is probably cost plus a mill or so for wheeling if we are performing the wheeling to the customers. So probably the result would be nearly the same.

Senator ELLENDER. Well now, if the Georgia Power Co. is willing to sell that electricity to your preferred customers at a rate similar to that which you could deliver it for, what are you kicking about?

Mr. EARDLEY. We have no complaint with the contract, Senator. I don't believe we are complaining about that particular contract. There are preferred customers.

Senator ELLENDER. Well, are you asking for money to build a line?

Mr. EARDLEY. No. There is no money in this appropriation for a line. In that particular case we were replying to your question as to what plants were now operating.

Senator ELLENDER. Well now, as I understand it, the purpose of the appropriations is to take care of Buggs Island and Clark Hill.

Mr. EARDLEY. That is right.

Senator ELLENDER. How far will you carry this electricity from Buggs Island?

BUGGS ISLAND DAM TRANSMISSION LINES

Mr. EARDLEY. In this bill we are asking for the restoration of money to transmit power from Buggs Island down to Kinston, N. C., a distance of 130 miles. We are asking for money to intertie the power company at Buggs Island with the Appalachian Power Co., at Philpott.

Senator HAYDEN. Where is Kinston?

Mr. EARDLEY. It is a distance of 130 miles.

Senator ELLENDER. What utility is serving Kinston now?

Mr. EARDLEY. I do not believe they have a contact with a utility. They have a municipal operation. If they have a contract with a utility, it is one that they entered into recently. We have applications from all of those customers. They have asked us to build those transmission lines, and I assume they will state their case before the committee.

Senator ELLENDER. As I recall, the request made some time ago was to build a line to Langley Field. Has that been eliminated?

Mr. EARDLEY. We are not asking for the restoration of funds to build a line to Langley Field because we have been advised by the National Advisory Committee for Aeronautics that they have entered into a satisfactory contract with the Virginia Electric Power Co., at Langley Field.

Senator ELLENDER. Will you get to that? I don't want to anticipate that.

Mr. LEAVY. That is quite all right, Senator.

COST OF BUGGS ISLAND-KINSTON LINE

Senator ELLENDER. How much will you require to build a line to Kinston, and if you do build the line to Kinston how many municipalities will you serve that are now being served by private utilities, privately owned utilities?

Mr. EARDLEY. The total of that construction will be $4,400,000.

COMMUNITIES PROPOSED TO BE SERVED

Senator ELLENDER. All right. How many towns do you propose to service which are already being serviced by privately owned utilities?

Mr. EARDLEY. I am not sure that any of the towns have a contract with private utilities, Senator.

Senator ELLENDER. Can you find out about that for us?

Mr. EARDLEY. I certainly will. We have the applications of all of the towns that have applied for power from Buggs Island.

(The information referred to was discussed on p. 929.)

SERVICE TO REA COOPERATIVES

Senator ELLENDER. How many cooperatives will you be able to service from this particular power line that are not being serviced or that are being serviced by privately owned utilities?

Mr. EARDLEY. There are 17 REA cooperatives in the general area that this line goes through.

Senator ELLENDER. Where are they getting their power from at the present time?

Mr. EARDLEY. Their power at the present time is being supplied to them by the power companies that are in the area.

Mr. LEAVY. Some of them have it furnished by some municipal plants.

Senator HAYDEN. Can you tell us what would be the difference in the rate if they were to obtain the power from Buggs Island?

Mr. EARDLEY. In connection with that, Senator, when the Secretary was here he was asked to explain how we could be selling this power for 6 mills. I am not sure where this 6-mill quotation came from. The records show that the power was going to cost 9 mills.

BUGGS ISLAND POWER RATES

During the Senate hearings on the second supplemental appropriation bill for 1951, a question was raised as to the rates to be charged for Buggs Island power. It is our information that the Office of the Chief of Engineers in Washington gave a figure of 9 mills per kilo-

watt-hour as the cost of power from Buggs Island. We have no information how this figure was derived. The figure, however, does not correctly portray the rates which will be applicable in marketing power from Buggs Island.

Buggs Island is a flood-control project which will have a relatively large installed capacity as compared to the amount of energy which will be available. The power available at Buggs Island must be divided into its various components, that is, capacity, firm energy, and secondary and dump energy. The value of the secondary and dump energy is determined by the market available in the area for this class of energy. The value of the capacity is determined by the investment in the most economical alternative source of power. The annual value of the firm energy is determined by the difference between the total cost and the value of the above two items.

The determination of these values involves detailed study. During the past year, Southeastern Power Administration, which is responsible under the law for determining the rates to be charged for power from Buggs Island, has been studying this question with great care. Based on this study, we are quoting a rate of 90 cents per kilowatt of capacity per month plus 4½ mills per kilowatt-hour for accompanying energy. Under this rate the preferred customers will be able to purchase Buggs Island power for approximately 7.25 mills per kilowatt-hour, with variations above or below this figure depending upon the load factor of the customers' requirements.

Senator HAYDEN. I want to say that we have invited Senator Robertson to be here.

Mr. EARDLEY. This transmission component would probably allow us to make an estimated investment of $20,000,000 for facilities.

Senator ELLENDER. Will the people at Kinston be in a position to obtain electricity at the same rate as those who are halfway from Kinston?

Mr. EARDLEY. The rate for power from Buggs Island will be a postage-stamp rate, and they will all pay the same regardless of the distance.

Senator ELLENDER. Regardless of the distance?

Mr. EARDLEY. That is right.

Senator ELLENDER. So your 7.25-mill figure is the cost for the most distant ones.

Do you know what those cooperatives are now paying for that?

Mr. EARDLEY. I don't. I will be glad to submit that for the record.

Senator ELLENDER. Do that, please.

Mr. EARDLEY. Yes.

(The information requested appears on p. 1933.)

Mr. EARDLEY. The figure of 9 mills per kilowatt-hour is indeed unfortunate. The power companies in the area have used this figure to deprecate the value of Buggs Island power and to discourage preference customers interested in the purchase of this power. The power companies in the area understood only too well that the figure of 9 mills per kilowatt-hour does not represent the actual selling price of Buggs Island power. Other rates have been quoted to the power companies by the Southeastern Power Administration. The contract proposal submitted to the Southeastern Power Administration by the Virginia Electric & Power Co. offered a price of $1.06 per kilowatt of

capacity, plus 4 mills for kilowatt-hour of energy. Based on the same load factor upon which the above rate of 7.25 mills was determined, the rate at which the Virginia Electric & Power Co. offers to purchase Buggs Island power results in the same cost of 7.25 mills per kilowatt-hour. At the same time preference customers were being advised by the companies that they would have to pay 9 mills per kilowatt-hour for the same power.

Senator HAYDEN. Would this rate quoted in Virginia be the same rate that was quoted in North Carolina?

Mr. EARDLEY. Yes.

Senator HAYDEN. You apparently have a little stub line there in Virginia that is red. Where does that go?

BUGGS ISLAND-LANGLEY FIELD LINE

AMOUNT REQUESTED

Mr. EARDLEY. The intention of that stub line is to go into the facilities to intertie with Virginia Electric Power Co.

Senator HAYDEN. Let us get this Virginia Power matter out of the way. You had here an original budget estimate of $4,000,000; is that right?

Mr. EARDLEY. That is correct.

Senator HAYDEN. And subsequent to the time this budget estimate was submitted the Virginia public utility has agreed to undertake to deliver power at Langley Field in a manner that is satisfactory to both the Secretary of Interior and the officials at Langley Field?

Mr. EARDLEY. Senator Hayden, I would like to say that we were not a party to determine whether the service of the Virginia Electric Power Co. would be satisfactory to Langley Field. First the Virginia Electric Power Co. wanted an extra charge of $4,100,000. They receded on that point. Then they offered the National Advisory Committee for Aeronautics exactly the same price in their letter, saying that any rate we offer they would give them the same rate. And we were advised by the National Advisory Committee for Aeronautics that they had entered into a satisfactory agreement. They did not state it was a contract, they stated it was an agreement, and the contract would be consummated later, and that they were satisfied that they would have a satisfactory contract in a day or so, and that is the way the matter stands. We are not asking for restoration of the funds.

Senator HAYDEN. That amounted to how much money?

Mr. EARDLEY. Most of the money.

Mr. BURT. $3,000,000.

Senator HAYDEN. The fact remains then that Virginia public utility has agreed to supply Langley Field with power at the same rate as the Secretary of Interior said he could do it?

Mr. EARDLEY. That is correct.

Senator HAYDEN. And that being the case the Secretary testified to us that he had no desire to interfere with that arrangement.

Mr. EARDLEY. That is correct.

Senator HAYDEN. The Government was getting power at a satisfactory rate because the rate was the same as his rate, and it must be satisfactory.

CONCURRENCE WITH HOUSE DELETION

Mr. EARDLEY. That is correct, Senator. In the figures included in this year's budget we are not asking for restoration of the $3,000,000.

Senator HAYDEN. That is dropped out?

Mr. EARDLEY. Yes.

Senator HAYDEN. The remaining amount, except that little stub in Virginia, is entirely for this line down to Kinston?

AMOUNT FOR SURVEYS AND PLANNING

Mr. EARDLEY. No; we are asking for about $400,000 to start surveys and initial planning on lines from Clark Hill to Greenwood (Greenwood County Electric Power Commission), Batesburg, Hartsville, and Aiken. These four lines in South Carolina will enable us to deliver power where we now have a contract with Greenwood County at this point, and intertie with the power company at that point [indicating]. It will permit us to deliver power—we have a letter of understanding with Santee-Cooper, South Carolina Public Service Authority—at this point and this point and this point [indicating]. These points are load centers and will intertie with utilities beyond which we can enter wheeling contracts to take power to the preference customers. Those are all the lines in consideration in this bill.

Senator HAYDEN. There is no other line in Virginia? I might have misunderstood.

Mr. EARDLEY. There is no other line in Virginia.

Senator HAYDEN. I may have misunderstood the Secretary. I thought there was involved this line from Buggs Island via Suffolk to Langley Field, and what you now desired was a line from Buggs Island to Suffolk. But has that been straightened out by a satisfactory arrangement with the Virginia public utility?

Mr. EARDLEY. We have no arrangement with the Virginia Electric & Power Co. in the area. We have had numerous discussions on wheeling contracts, and whether we will be successful in entering into a satisfactory contract remains to be seen, Senator.

Senator HAYDEN. So in the meantime you are not asking for any money?

Mr. EARDLEY. We are not asking for any money.

Senator HAYDEN. I see.

Senator ROBERTSON. Mr. Chairman, I appreciate your invitation in inviting me to sit in with you today, because you know my great interest in seeing the maximum use of Buggs Island power for our rural section and other preferred customers under the REA public power laws.

Do I understand you to say that your current request does not include anything at all for Virginia?

BUGGS ISLAND HYDRO CAPACITY

Mr. EARDLEY. No, Senator; there is a very small amount in there to enable us to build the facilities necessary to intertie at Buggs Island—I think the distance is a mile or so.

Senator ROBERTSON. If we can get the maximum capacity at Buggs Island of 204,000 kilowatts, would it not be necessary to build up a steam plant to firm up that power?

Mr. EARDLEY. No. We have no plans to build a steam plant. The Virginia Electric Power Co. have testified at numerous times—there are some 3,000 pages of record before the Federal Power Commission, as you know, and I am well familiar with that record—that they have plenty of steam capacity and want hydro capacity. We have the hydro capacity and we would like to buy steam capacity. We need to get together.

Senator ROBERTSON. The Roanoke River fluctuates, and I have been told that the firm power for Buggs Island might not exceed 100,000 kilowatts.

Mr. EARDLEY. I think the firm power is around 180,000 kilowatts, Senator, with 204,000 kilowatts——

Senator ROBERTSON. I was told privately by the engineers that in periods——

Mr. EARDLEY. I am talking about the dependable capacity, not the firm power. The firm power may be around 100,000 kilowatts.

Senator ROBERTSON. I was told that in periods of extreme drought—and I do not know whether it is on the official records or whether it was told to me privately—that it could drop as low as 50,000 kilowatts at Buggs Island.

Mr. EARDLEY. No; I don't think so. We have plenty of record on that.

LANGLEY FIELD POWER REQUIREMENTS

Senator ROERTSON. What is the minimum power that Langley Field requires?

Mr. EARDLEY. They were talking about 70,000 kilowatts, plus 150,000.

Senator ROBERTSON. 70,000 and 150,000 on the offpeak loads?

Mr. EARDLEY. That is right.

Senator ROBERTSON. After all, was it not a rather lucky break for our farmers that Langley Field got a 10-year contract at a satisfactory rate with a private utility, which leaves this power for the farmers, whom we intended to have it originally?

Mr. EARDLEY. No, Senator; that is a funny thing.

Senator ROBERTSON. It must be funny.

Mr. EARDLEY. It is peculiar—I don't mean funny—it is a peculiar thing. The power company officials were afraid that this power was going to get to Langley Field and it was all going to be used up there, and we were not going to use any of it up that would otherwise be used by the farmers. They were going to get just as much out of it. Mr. Creim sat here and testified that one-third of the energy would be used at Langley Field. Most of that was off-peak energy. One-third of it would flow to the farmers of Virginia and one-third would flow to farmers of North Carolina, and that worked out just like that.

Senator ROBERTSON. I know that was his theory, but I never could follow him as when the power there might go down as low as 50,000 kilowatts how you were going to furnish the minimum of 70,000 to Langley Field, a maximum of 150,000 to Langley Field, and then give the REA's in Virginia 35,000 and give the REA's in North Carolina 35,000. I could not do that kind of addition and get the answer that Mr. Creim gets.

Mr. EARDLEY. There is a lot of firming capacity that would be available to us under the contracts we propose to have.

Senator ROBERTSON. I just asked you about the firming plant and you said you do not have any firming plants.

Mr. EARDLEY. No. You asked if we had a plan to build a steam plant, I believe I understood you, Senator.

Senator ROBERTSON. To firm up this power.

Mr. EARDLEY. We have no plan to build a steam plant. We are going to buy power that we need, steam power that we need, to firm up this plant.

VEPCO PURCHASE OF BUGGS ISLAND POWER

Senator ROBERTSON. The engineers testified before us that the cost of Buggs Island is going to be nearly double what they originally estimated, and therefore their original estimate on the price at which it could be sold and liquidate the plant as contemplated was no longer accurate. We had some testimony that it might go up to 9 mills. What is your present idea of what the Government will charge at the bus bar?

Mr. EARDLEY. The Virginia Electric & Power Co. has offered to buy that power from us at $1.06 per kilowatt-month, plus 4 mills. That is the offer they made to us. That amounts to about 7.25 mills per kilowatt-hour for the load factor that the preference customers in the area would purchase it under. We are quoting substantially the same cost per kilowatt-hour to the preferred customers. That wasn't anything they invented. I mean, rates similar to that were quoted to the power company. They knew what they had offered them.

Senator ROBERTSON. What do you now figure would be the bus-bar rate? Would it be 6½ or 7 or what?

Mr. EARDLEY. Ninety cents per kilowatt for capacity.

Senator ROBERTSON. Don't tell me that. I cannot translate that.

Mr. EARDLEY. 7.25 mills per kilowatt-hour, depending upon the load factor.

Senator ROBERTSON. Would that be the bus-bar price at Buggs Island?

Mr. EARDLEY. That would be the rate anywhere on the system.

Senator ROBERTSON. Anywhere on the system?

Mr. EARDLEY. That is right.

Senator ROBERTSON. 7.25?

Mr. EARDLEY. That is right.

Senator ROBERTSON. You said you did not have a wheeling contract down there in Georgia?

Mr. EARDLEY. No, sir.

Senator ROBERTSON. And as yet you do not have a wheeling contract in Virginia?

Mr. EARDLEY. That is correct.

Senator ROBERTSON. Suppose a power company offered the wheeling contract at 1 mill to wheel it anywhere in the State and at 1 mill, provided that when they needed supplemental power they bought it from the company at 7.25. Would that be about as cheap as you could deliver it?

Mr. EARDLEY. I do not understand the arrangement you are proposing now, Senator.

WHEELING POWER RATES

Senator ROBERTSON. I am proposing an arrangement to wheel Buggs Island power to the REA's. To do that you have got to have a bus-bar rate and you have got to have a transmission rate. That is the reason I tried to get you to tell me what the bus-bar rate was.

Mr. EARDLEY. It would all be included in the same rate.

Senator ROBERTSON. Well, it could not be included in the same rate because the Government does not sell this power down at Kinston. The power is first sold at the bus bar and then somebody hauls it from there to somewhere else. All these hydroelectric plants had a rate at the bus bar. That is what TVA testified before us, and that is what we had testimony on this morning, about Bonneville, as to what they would sell it for at the bus bar.

Mr. EARDLEY. I have testified that this power would be sold under a postage-stamp rate, 1 mile, 50 miles, or 100 miles, the rate would be the same. We will have to pay either to rent someone else's facilities or build facilities to get that power to the customer.

Senator ROBERTSON. That is your plan of distributing this power, but you first will have to make an agreement with somebody as to what it is going to cost at the bus bar, irrespective of the 50, 100, or 200 miles you may later transmit it.

Senator HAYDEN. Let me see if I understand you. The rate is 7 point what?

Mr. EARDLEY. 7.25.

Senator HAYDEN. 7.25. If you had a wheeling contract with a private power company, let us say, for the first 100 miles it was 1 mill and then for the next 100 miles another mill. You deliver it at the same price, but you have to pay out of that price the cost to the company within the 100 miles, say, 1 mill, to make it simple.

Mr. EARDLEY. That is right.

Senator HAYDEN. What you might get then at the bus bar on that would be a mill less than otherwise?

Mr. EARDLEY. That is correct.

Senator HAYDEN. But you would be saved the investment in transmission line which you would not have to amortize?

Mr. EARDLEY. Well, I think we ought to clear up the record. In the first place, when you say "you," Senator, it is the rate payers in the area who would be saved that cost.

Now, the cost is the cost of amortization, interest, and things of that type. It is true the Federal Government make the investment, but the rate payer carries the cost, and it is the rate payer who would be saved that cost, not the Federal Government. The Federal Government is merely interested in liquidating its investment in these facilities.

Senator HAYDEN. If it costs the Federal Government an average of a mill to transmit power a hundred miles, whether it does it over its own transmission lines or whether it gets a wheeling contract, it doesn't make any difference to the ultimate consumer, does it?

Mr. EARDLEY. He has to pay the bill.

Senator HAYDEN. Seven and a half.

Mr. EARDLEY. It does not make any difference to Uncle Sam, because we have to set the rate and liquidate the entire investment, so the rate payer is the one who pays the bill.

Senator ROBERTSON. Suppose VEPCO and Carolina Power & Light wanted to get power from Buggs Island. Would they have to pay 7.25, or would they hook up at the bus bar at a cheaper rate than that?

POWER-RATE DETERMINATION

Mr. EARDLEY. The sale of power to VEPCO or Carolina Light & Power Co. involves not sales of power to preference customers, sales of capacity, dump energy, and sales of secondary energy—you have it mixed together. You have to evaluate the components of all the power they are going to get. It doesn't make a logical equation to try to throw that all into a pot and come up with the answer, because that sort of procedure is how you came up with the 9-mill rate for power. You are going to charge them so much for capacity and so much for energy that goes along with it, and they are not going to be taking the same proportionate parts of capacity and energy that your customer 100 miles away wants, because they don't need that kind of capacity, and they don't need that kind of energy to integrate with their steam plants. They want peaking capacity.

Senator HAYDEN. That is what I understood in the Southwestern Administration. There were a series of Government dams full of water part of the year and during other parts the water was very low. The power was not firm. Now, that power not being firm could very profitably be integrated with steam power that the private utilities had in the area.

Mr. EARDLEY. That is correct.

Senator HAYDEN. To open up the dams and feed the power into the dams at the hour in the day when they have a peak load.

Mr. EARDLEY. That is correct.

Senator HAYDEN. And shut the dam the rest of the time. It is about an hour out of 24 that they really wanted this kind of power, this type of power, which saved them a stand-by steam plant which they would use for only 8 hours.

Mr. EARDLEY. That is correct.

Senator HAYDEN. That being the case, they were very glad to make this kind of an arrangement with the Government. The Government, on the other hand, dealt with REA's or municipalities and had this firmed-up power that it could sell the year around because of this kind of a contract with the private utilities. The private utility would agree: "We firm your power up. We can give you a quantity of power in value equivalent to the total valuation you place on the peak power that you furnish us."

Mr. EARDLEY. That is correct.

Senator HAYDEN. In that way they both profited. And it would seem to me that you would have to make the same kind of arrangement here in the Southeast, to work it out right. That is, you have no stand-by steam plants.

Mr. EARDLEY. That is correct.

Senator HAYDEN. These power companies have, and if you could work out an arrangement with them whereby you furnish them peaking power from Buggs Island, and the other dams around there, then the Government would get greater value net out of its power and they would be saved the investment in steam.

DISCUSSION OF WHEELING CONTRACTS WITH VIRGINIA REA COOPERATIVES

Senator ROBERTSON. Let me ask you this question: Supposing that you have this $20,000,000 transmission line down at Kinston, which you said will enable you to deliver power to the co-ops along that line at 7.25 mills. Now, you do not have any proposal for a line of that kind in Virginia. Suppose the Virginia Electric & Power Co. were to agree to let the co-ops buy all the power that Buggs Island is prepared to furnish, and that they may need to use, and wheel it to them anywhere in the State that they want it wheeled—and that will be, in some instances, more than 200 miles—at 1 mill. And then sell them additional power when Buggs Island has to be firmed up. And, as you know, there will be many instances when it will have to be firmed up. And they will firm it up with additional power from their own steam plants and deliver it at the same terminal points, for 7½ mills. Do you think that would be a good contract?

Mr. EARDLEY. Well, there are so many components in this problem down there, Senator, I would like to address myself to that particular point.

When you talk about wheeling power, we are perfectly agreeable to pay a reasonable charge for that service. Mr. Carey is present in the room, and I will remind him of some of his testimony. He said that in the area around here that is marked off on the map, in the Buggs Island area, they would have 110,000 kilowatts of load and that 110,000 kilowatts of load actually would be supplied——

Senator ROBERTSON. Let us complete your map there a little bit. You have got a piece of red pencil there. Is that the James River up there?

Mr. EARDLEY. Right here?

Senator ROBERTSON. Yes.

Mr. EARDLEY. Yes. That is the James River.

Senator ROBERTSON. Go north from the James River about 125 miles and you get to Page and Rockingham Counties.

Mr. EARDLEY. Clear up here.

Senator ROBERTSON. Yes. That is one of the REA's that wants to take power from Buggs Island. That is the Shenandoah Electric Co-op, which is one of the biggest in the State, and one of the first. I helped them to get all of their original loans. They have done a fine job up there.

Mr. EARDLEY. They are a good co-op. I hope we can do something about their power supply.

Senator ROBERTSON. That is part of what you have got to deliver. It is over 200 miles up there.

Mr. EARDLEY. At the present time the Virginia Electric Power Co. is carrying all of the load in this area down here, by bringing it into the south with transmission lines from the north.

Senator ROBERTSON. What I want to ask you is: Suppose you take Buggs Island——

Mr. EARDLEY. Under this proposal that you are talking about, Senator, the power from this dam probably will not flow any farther than Suffolk, and will pick up the load in this area. They will be saved the expense of transmitting power into that area, and they have testified to that. So, as far as wheeling power is concerned, they are not actually wheeling power for us very far.

Senator ROBERTSON. Suppose they enter into a contract to wheel it anywhere they want to wheel it. Do they not have a contract? Do they not get that power?

Mr. EARDLEY. We put it in their system.

Senator HAYDEN. What he means, Senator, is this: That if this hydro power goes into the lines of the Virginia Electric Power Co. in southern Virginia, instead of bringing power from the north down there it is right in their lines. Then they take an equivalent amount of power, generated for the north, and wheel it to the co-ops, so that the wheeling distance is not 200 miles. Do you get the point? They have steam-generation plants in central Virginia, so to speak. Now, that load is taken off of both plants by this hydro power down here, and then that power from the central plants goes the other way. They do not have to transmit it 200 miles.

Senator ROBERTSON. Well, suppose they have to transmit it 100 miles. Do you lose any power in transmitting it?

Mr. EARDLEY. Yes, sir; there will be loss of power.

Senator ROBERTSON. Is 1 mill a fair charge for wheeling power anywhere it has got to be wheeled? Do you know of any way you can wheel it for less than that?

Mr. EARDLEY. I beg your pardon?

Senator ROBERTSON. Is 1 mill a fair charge to wheel the power, whether they wheel Buggs Island power all the way or whether they wheel their own power all the way, it is the same amount of power that gets there.

Mr. EARDLEY. We will be asking to use the surplus capacity that they have in their transmission lines. In other words, you have a hotel here with some vacant rooms. We are asking to use those vacant rooms. Any time you want them back you can have them and we will get out.

You ask the question whether we have wheeling contracts for less than that? We have dozens of wheeling contracts less than that. We pay $3,000 a month in Montana to haul, I believe, about 120,000 kilowatts of power a distance of 50 miles, as I recall, 50 or 75 miles. That would amount to a fraction of a mill per kilowatt hour. It was because it was a good business proposition for us and a good business proposition for the company. And we would certainly like to enter into a good business proposition with the Virginia Electric & Power Co. We make no bones about this.

COST OF TRANSMISSION LINES

Senator ROBERTSON. You say you can invest $20,000,000 and deliver Buggs Island power down to North Carolina for 7.25 mills. The Virginia Electric & Power Co. has offered the co-ops to wheel all the power you have available anywhere they want it delivered for 1 mill plus whatever you have to pay at the bus bar, or to supplement that at any time, for 7½ mills.

Mr. EARDLEY. Senator, did I understand you to say that the lines in North Carolina were going to cost $20,000,000?

Senator ROBERTSON. That is what I understood you to say.

Mr. EARDLEY. No; they are going to cost $4,000,000.

Senator ROBERTSON. What was the $20,000,000?

Mr. EARDLEY. The transmission components in the rate I quoted.

Senator ROBERTSON. Well, what is the difference between the transmission components and constructing the line to deliver the power? I do not know what you are talking about when you say "components." I am talking about the cost of getting power down there.

Mr. EARDLEY. This is a very simple proposition. I believe I can simplify it as much as possible for you, Senator, by saying that it is either a case of constructing a facility that we want and paying the cost or renting something that the Virginia Electric & Power Co. already has that suits our purpose, and we want to pay a reasonable compensation for it.

Senator ROBERTSON. That is all right. Let us get back to North Carolina. I understood you to say that if you delivered this current all the way down to Kinston, 120 miles, is it?

Mr. EARDLEY. That is right.

Senator ROBERTSON. There would be a total investment of $20,000,000; is that right?

Mr. EARDLEY. $4,000,000?

Senator ROBERTSON. $4,000,000?

Mr. EARDLEY. That is right—roughly.

Senator ROBERTSON. What is the $20,000,000 about?

Mr. EARDLEY. The rate here includes an investment of $20,000,000 in transmission lines.

Senator HAYDEN. Where are those lines, if they only cost $4,000,000?

Mr. EARDLEY. They would be lines built in the future; if we do not enter into a wheeling contract with the Virginia Electric & Power Co., we will be back before you next year to try to get some money to build transmission lines.

Senator ELLENDER. What you mean is that it would cost $20,000,000? to properly wheel all of the electricity from Buggs Island?

Mr. EARDLEY. That is right—in investment.

Senator ELLENDER. Now, in making this 7.25 rate, did you make it on the basis of an investment of $20,000,000?

Mr. EARDLEY. Yes, in transmission lines.

Senator ELLENDER. I understand that. How much of this 7.25 did you charge to the transmission system?

Mr. EARDLEY. Interest and amortization and replacement on the $20,000,000 investment in transmission system.

Senator ELLENDER. What does that amount to on this 7.25?

Mr. EARDLEY. I do not have the figure right before me. I will be happy to supply it.

Senator ELLENDER. Will you put it in the record, because that is going to answer the question that Senator Robertson has been asking about.

Mr. EARDLEY. Yes. We will submit that.

(The information requested appears on p. 929.)

DETERMINATION OF TRANSMISSION RATES

Senator ELLENDER. Can you not tell us what the amount of money is going to be spent by you to transmit this power?

Mr. EARDLEY. Well, the problem here, Senator, is the fact that you have capacity—

Senator ELLENDER. You have already gone over that.

Mr. EARDLEY. You use a common denominator.

Senator ELLENDER. You have gone over that two or three times. If you put it on the basis of a $20,000,000 cost you ought to be able to reduce it to what it would cost on a kilowatt-hour basis.

Mr. EARDLEY. I will have to prorate part of the cost of that to capacity, part of it to secondary capacity, part of it to dump energy, and part to firm energy.

Senator ELLENDER. How do you reach the figure of 7.25?

Mr. EARDLEY. Putting in an investment of $20,000,000 in the overall investment, the power facilities at Buggs Island which would have to be amortized by the Federal Government.

Senator ELLENDER. How much of the 7.25 will go toward liquidating the $20,000,000?

Mr. EARDLEY. I can give you that figure, Senator.

Senator ELLENDER. That is Senator Robertson's question.

Senator ROBERTSON. I take it you will not have anything left of that—that is going to be the actual cost of it. I do not think you are going to have anything left out of it, any profit at that figure.

Mr. EARDLEY. The Federal Government desires to make no profit. We are under law to deliver this power at cost.

Senator ROBERTSON. You have money invested there. You have got to pay for that whether you call it profit or whether it is liquidation of investment.

Senator ELLENDER. My guess is it would be much in excess of a mill out of this 7.25 in order to transmit that electricity.

Mr. EARDLEY. I doubt it.

Senator ELLENDER. I think you are trying to make this too complicated.

Mr. EARDLEY. No, Senator, I am trying to keep the record as clear as possible. I do not want any information to get into the record like the 9 mills, because that means nothing. When we use the 9-mill figure it means nothing.

PURPOSE OF WHEELING CONTRACTS

Senator HAYDEN. It is perfectly obvious to me that if the proper wheeling contract could be made with private power companies in the area the Government would be saved the investment in a transmission system which it would have to put in to do that otherwise.

Senator ROBERTSON. Certainly. Our concern is: We want the farmers to get the power and get it at a proper rate. We are trying to find out what the proper rate is. I gather from the testimony of the witness that he is going to haul Buggs Island power down to Kinston and sell it for 7.25 mills. But he doesn't yet explain to me how, when Buggs Island does not furnish enough power, he is going to firm it up and give them power all the year around at that rate. Where is he going to get the balance and what is he going to pay?

Senator ELLENDER. He says he is going to provide it from those who produce it from steam.

ALLOCATION OF BUGGS ISLAND POWER

Mr. EARDLEY. There is plenty of firm power in that dam to take care of the needs of preference customers in Virginia and North Carolina. The remaining is capacity, secondary and dump energy,

and we are going to market that to Virginia Electric & Power Co., and Carolina Power & Light Co., companies that can take it into their systems and use it. They have testified that they wanted everything that we could give them, and they have been trying to work out a contract that would be equitable. The only stumbling block in the contract is what they want to charge us, or one of the main stumbling blocks is what they want to charge us for wheeling.

VEPCO OFFER OF WHEELING CONTRACT

Senator ROBERTSON. They have offered a contract to wheel it for 1 mill. If you need any power you would pay them 7½ mills for the power that they have had to generate by steam out of their own money in that more expensive type of equipment.

Mr. EARDLEY. Senator, I agree with your statement. Before the Public Service Commission of Virginia they did offer to wheel it for 1 mill for the REA cooperatives. They have never made that offer to us.

Senator ROBERTSON. They have made it to the co-ops, the very same proposition.

Mr. EARDLEY. I agree they made it to the co-ops.

Senator ROBERTSON. The very same proposition they made at the hearing before the State Corporation Commission involved four separate and distinct proposals, one of which was 1 mill; another was if they needed any more power than they get from Buggs Island, they could purchase it from the Power Company at their steam plant at 7½ mills, but all delivered to them.

Mr. EARDLEY. Do I interpret that as an offer of 1 mill for Virginia Electric Power Co. being made to Southeastern Power Administration. We never had that offer.

Senator ROBERTSON. I take it you had the power to enter into the contract for the REA's. I thought they entered into their own contracts.

Mr. EARDLEY. We have the power. We are trying to get it to the REA cooperatives. We need the facilities to get it there.

Senator ROBERTSON. The VEPCO has written a letter to the power committee of the Virginia REA Association, offering to wheel the power from Buggs Island for 1 mill, provided those REA's would buy their additional power when needed, from the company, at 7½ mills.

Mr. EARDLEY. Well, I understand there were numerous offers made plenty of places.

Now, the fact is that the Southeastern Power Administration has been negotiating with Virginia Electric Power Co. They went to Elbertan, Ga. They know where we are and they know where the Department of the Interior is. If they have an offer to make and want to negotiate if they would please come to us we would be glad to talk to them. We are responsible for marketing this Buggs Island power.

Senator ROBERTSON. If they can prove that they have made that offer, in your opinion, was that a fair offer?

Mr. EARDLEY. 1 mill per kilowatt-hour?

Senator ROBERTSON. Plus this buying any firmed-up and supplemental power from them at 7½ mills.

Mr. EARDLEY. We would have to analyze what their offer was. And I am sure we do not have all the facts before us today.

Senator ROBERTSON. Mr. Chairman, I hope that you will excuse me. I have a large delegation of school children who have asked to have their Senator have a picture taken with them.

Mr. EARDLEY. I am very glad to have had this talk with you today, Senator, and I hope that you have had some of these things cleared up in your mind. I certainly hope I have not confused you.

Senator ROBERTSON. I think we are very close together about this thing. As I said, my chief aim is to see that our farmers get the power, and get it at a proper rate. I think we can reach that.

Mr. EARDLEY. If you are talking about wheeling for 1 mill a kilowatt-hour with no strings attached to the Government's power, that is one thing. But if you are talking about 1 mill per kilowatt-hour provided we turn the power over to the company and let them dispatch everything that is in Buggs Island, and use it for their own purpose, that is entirely another thing, Senator.

Senator ROBERTSON. I do not know about the other thing. All I know is I received a copy of a letter written to these co-ops saying "We will wheel it anywhere you want it if you will buy your supplemental power from us at 7½ mills."

Mr. EARDLEY. Why was not the letter written to us? We have been in negotiation on this thing.

Senator ROBERTSON. I do not know. I thought the contract was with the REA's.

Senator HAYDEN. As I remember, Senator Robertson, the other factor that is in this matter is whether an arrangement can be made that is of mutual advantage to both the private power companies and the Government, it should be made. The Government has unfirm power, dump power, or whatever you may want to call it, which these companies can firm up. Now, they do not go elsewhere. That is fed in on one basis and comes out on another. The Government gets out 365 days in the year for the service of a co-op or a municipality firm power which it could not posibly supply otherwise, because it does not have the steam plants.

Senator ROBERTSON. I am not an expert, as you have already learned. I did not read a single page of the testimony in that long hearing you said you thought I was so familiar with. I read an account now and then in the papers, but not a page of the testimony.

I understand the representatives of the VEPCO will be here tomorrow, and you can ask them all the details of what this offer is and how much comes in one way and how it goes out the other way.

Mr. EARDLEY. Senator, I would like to say this: I know numerous representatives of Virginia Electric Power Co. are present here in the room. We all know one another personally. We became acquainted because of numerous hours spent on a well-known hearing. I consider all of them my friends, and I am certain all representatives of Southeastern would be very happy to talk to them at any time they want to talk. The only thing that bothers me is why they should be out negotiating a contract with the cooperatives in Virginia, or making an offer, when they know where we are. We have held ourselves willing to negotiate with them, talk to them at any time they were ready and able to talk, and if they have any offers to make they should make them to us.

Senator ROBERTSON. I did not know Southeastern was in a position to buy power from a private utility to supplement the needs of the co-ops. If that is part of your function, you ought to seek a conference with them.

Senator HAYDEN. They do; they buy it not in cash, but in power. That is, the power is unfirm that they turn in, and it is advantageous to the power company because they can shut down their steam plants at peaks.

Senator ROBERTSON. The important thing, Mr. Chairman, as I say, is to try and reach an agreement that is fair, fair to the private utilities and fair to the farmers, and under which the farmers can get the power which they need and which they are entitled to. I believe that we can reach some agreement on it. I certainly hope so.

QUESTION AS TO MONOPOLY FOR BUGGS ISLAND POWER

Senator ELLENDER. I would like to say this, Mr. Chairman: I would not stand for any proposition that would result in the Virginia Power Co. or any other company monopolizing all of the power that is being produced at Buggs Island. I would vote to build lines away from Buggs Island to some central location where the preferred customers can take it. But when these lines are built I do not want them to be built paralleling other lines to take away business that is already in the hands of some of these privately owned concerns. That is what I am opposed to. I certainly would not consent to permitting any private utility to be the only ones to come to Buggs Island and use that power as they chose.

Mr. EARDLEY. I am very glad you made that statement, and I would like to point out something to you.

Senator ELLENDER. I do not suppose anybody wants to do that.

Mr. EARDLEY. Here is Buggs Island. There is a transmission line owned by Carolina Power & Light Co. that went all the way up to Buggs Island, within a stone's throw of Buggs Island, and then went out and came back to where the North Carolina-Virginia State line is.

In other words, a piece of line in Virginia Vd right up there and it was not because the surveyors got lost, either. They headed right to that dam site, and you can stand at the dam site and look up the mountain and there are the poles. Part of the V was owned, until about a year ago, by Carolina Power & Light Co.—or about 2 years ago, and the point of intertie was right here [indicating], east of there. Then the Virginia Electric Power Co.'s system starts to Suffolk.

About the time of this famous Roanoke Rapids case, for reasons best known to them, the ownership of that line as far as the V was concerned, back down in North Carolina, changed from Carolina Power Co. to Virginia Electric Power Co. That put them on the south of the dam, you see, right up there on the hill.

Without any contract for power from Buggs Island they say that they now have a line under construction. I have not seen the poles, but they stated it before the House. It is from Chase City, a point about right here, down to the dam. We proposed to build a line like that out to Chase City, but we had to get appropriations. They are

building that line. They will be sitting on both sides of the dam with transmission lines.

Senator ELLENDER. Up to the dam?

Mr. EARDLEY. Up to the dam; that is right.

Senator ELLENDER. So they would be the only ones to whom power is available?

Mr. EARDLEY. They testified before the Federal Power Commission that they would buy all of the power of this dam.

Senator ELLENDER. You would not get many dams built and money appropriated for the purpose of generating electricity from falling water if you permitted the power to be monopolized by any privately owned concern. I know that I would not vote for any project of that kind.

Mr. EARDLEY. Senator, we are doing our best to try to get this power away from the dam to the load centers for preference customers.

BUGGS ISLAND-KINSTON LINE

Senator ELLENDER. Why have you got to build the line way down to Kinston? Is it necessary to go that far south in order to distribute the power?

Mr. EARDLEY. There are no transmission lines to speak of in this area of eastern North Carolina.

Senator ELLENDER. You mean owned by private utilities?

Mr. EARDLEY. There are some 22-kilovolt lines, and some shoestring lines, but not transmission lines, as we think of them.

All of these municipally operated plants need more power. Like the co-ops in New Mexico, each one of these individual operations is very expensive, and if they were all tied together, their cost would be much less.

Now, we marked off what would be the logical marketing area for our power, from Buggs Island so that those who were interested in North Carolina would get their fair share of it. And here they were. And we marked off areas in Virginia where this power should flow as close to the river basin as possible, and decided that those were the ones in Virginia that should get their fair share.

Now, the ones in North Carolina that are interested in this power are here, and east of here [indicating].

Senator ELLENDER. And you say that all the power that is now being consumed by the citizens of Rocky Mount and Kinston and Wilson and Goldsboro is from their own facilities?

Mr. EARDLEY. They operate their own municipal plants.

Senator ELLENDER. That is what I mean.

Mr. EARDLEY. That is right, except Goldsboro.

Senator ELLENDER. In the case of Goldsboro, who furnishes power in that city?

GOLDSBORO, N. C., INTERTIE CONNECTION

Mr. EARDLEY. Carolina Power & Light Co. We would be tied in with Carolina Power & Light Co. to deliver some of the peaking capacity they have been talking about over their system.

Senator ELLENDER. Would you take away from the power company Goldsboro's customers?

Mr. EARDLEY. We have no design to do that.

Senator ELLENDER. I know, but wouldn't you be doing that?

Mr. EARDLEY. I doubt it, Senator, I doubt it.

Senator ELLENDER. If they had preference, and you could sell it to them cheaper than Carolina, where do you think they are going to buy it?

Mr. EARDLEY. I do not think there would be any question of competition in that particular case. The price is about the same.

Mr. LEAVY. That is, received at a retail point.

Senator ELLENDER. Suppose you come down to that section and you can sell it to them cheaper.

Mr. EARDLEY. We came here, Senator, because of a steam plant owned by Carolina Power & Light Co., because we proposed to intertie with them because of the integration problem. If you would like to see us stay away from Goldsboro, we can shorten 10 miles of line out of there, and go from Wilson to Kinston.

Senator ELLENDER. What you ought to use that power for is to serve those who have first preference on it and who are inadequately serviced.

Mr. EARDLEY. That is correct.

Senator ELLENDER. Have you had any complaints from the people at Goldsboro?

Mr. EARDLEY. No.

Senator ELLENDER. All right; why build the line to Goldsboro?

Mr. EARDLEY. We are building to intertie with Carolina Power & Light Co.

WHEELING CONTRACT WITH NORTH CAROLINA POWER CO.

Senator ELLENDER. But is that what you are trying to do there? To build it so you can go to North Carolina Power Co. and make a power contract with them and firm up the power with the steam plant?

Mr. EARDLEY. To sell them peaking capacity, and enter into a wheeling contract.

Senator ELLENDER. Is that your idea?

Mr. EARDLEY. Yes. To enter into wheeling contracts with them.

WHEELING CONTRACTS WITH ROCKY MOUNT, KINSTON, AND WILSON, N. C.

Senator ELLENDER. Are you going to buy any power from Rocky Mount, Kinston, and Wilson?

Mr. EARDLEY. Yes. They operate their own municipal plants to the extent that it is economically possible for them to generate. Some of the plants, except in an emergency, are not economical to operate.

Senator ELLENDER. You are going to run that power into your system?

Mr. EARDLEY. On off-peak periods probably; yes.

Senator ELLENDER. And I presume that is what your continuing fund will be used for?

Mr. EARDLEY. That is correct. Now, we would shut down under conditions like that; we would shut down here at Buggs Island and try and save water and dispatch it on the peak. And they, in turn, would pick up their own loads down here, if the water conditions demanded it.

Now, there has been one development that I know about, and only know by hearsay, because nobody responsible for this has told me.

Right up about here is a town of Washington, N. C. They were given an application for power blank by us and we have had some discussions with them. Well, I was told yesterday that—and this is merely hearsay, I want you to understand that—they entered into a 25-year contract with the power company, and that the power company proposes to build a line south, and the generation source would be Suffolk, probably from here down to intertie with the line down here at Kinston. Those plans are plans that developed since our House hearing. I think I should frankly tell you that we have heard that.

Senator ELLENDER. Do you mean to tie into those you propose to build?

Mr. EARDLEY. Not to tie in with what we propose to build, but to serve an area that was not receiving service, and an area that we pointed out had no transmission lines in it, and needed transmission lines, and we were asked to build transmission lines into it. Now they have a plant, so they can build transmission lines to it, so they can serve it, and if they can convince the preference customers that Buggs Dam power is going to cost 9 mills and convince them to sign their contracts so there will be no preference customers in North Carolina, again we will be further hemmed in at Buggs Island.

Senator HAYDEN. It is one of those instances that we have had so many times. There is only one power company in the United States that I know of that has not fallen into that error, that is, they have underestimated the capacity of rural areas to utilize power. But in northern California there is just one REA in the whole area. The Pacific Gas & Electric Co. out there has served every farmer and everybody else who wanted power, realizing that it was an awfully good market.

Mr. EARDLEY. Would you mind if I correct you, so that the record will be correct? I was regional engineer in California and there are two REA cooperatives there.

Senator HAYDEN. Two in all of northern California. That is, the private power, the private power companies, realizing that it was a good market in that country, went out and got that market. In Oklahome, we find it, and in other regions in the United States that the power companies figure, well, this is a long ways off, and it is going to cost us a lot of money, and we are going to have just a few customers, and we will not bother with it now. Along come the REA's and step in and organize and take hold of the business, and the result is that the power companies wake up and begin to get into those districts. It is exactly what happened here.

Mr. EARDLEY. It is a safe bet that if there had not been any Southeastern Power Administration, if there had not been talk about going into that area, maybe they would have built in there immediately and maybe they would not. I think we probably pointed out the fact to them that there were no transmission lines. Although we are being threatened with duplicate transmission lines, they have decided that transmission lines are necessary.

Senator HAYDEN. That is all right, if these people can get service.

Senator ELLENDER. There are no transmission lines, of course, where you propose, because Rocky Mount, Wilson, and Kinston are using their own facilities.

Mr. EARDLEY. That is right. They are operating their own plants. I might point out, Senator, while we are talking about wheeling contracts, that because of the wheeling contract between the Bureau of Reclamation and the Pacific Gas & Electric, the REA cooperatives in northern California which you mentioned will get their power over wheeling and shut down the Diesel plant they have up there.

Senator ELLENDER. Do you know what the citizens of Rocky Mount, Wilson, and Kinston are paying for their electricity at the monent?

Mr. EARDLEY. I do not have access to the records. We know it is high. Some of it is old steam. The Federal Power Commission recently made a report in which they recommended that certain of these towns here tie together for mutual benefits. Now, in my own engineering judgment of the cost of old steam plants, it probably costs them about 15 mills.

Senator ELLENDER. Do you mean to the consumer?

Mr. EARDLEY. No; at the bus bar, equivalent to what our deliveries could be at 7¼ mills. I am talking about generation at the bus bar.

Senator ELLENDER. A cent and a half a kilowatt-hour?

Mr. EARDLEY. That is right.

Senator ELLENDER. How much do they sell it for to the customer?

Mr. EARDLEY. I do not have the rates before me, but I imagine it would be 5 cents a kilowatt-hour.

Senator ELLENDER. Would you be able to put in the record what the rates are to the consumer at Rocky Mount, Wilson, and Kinston and Goldsboro?

Mr. EARDLEY. Yes.

Senator ELLENDER. So that we can see what the difference is?

Mr. EARDLEY. Yes.

(The information referred to is as follows:)

RESIDENTIAL POWER RATES

ROCKY MOUNT PUBLIC UTILITIES

(224) Residential service, July 1, 1950

Designation: R.
Applicable: To residential customers for all domestic uses.
Rate:

5.5 cents per kilowatt-hour, first 40 kilowatt-hours.
3.5 cents per kilowatt hour, next 70 kilowatt-hours.[1]
2.2 cents per kilowatt-hour, next 140 kilowatt hours.
1.2 cents per kilowatt hour, next 350 kilowatt-hours.
1.0 cents per kilowatt-hour, all additional.

Minimum bill: $1.20.
Multiple dwelling units: When more than one residential unit is served through one meter, the minimum bill and blocks of the above rate will be multiplied by the number of units served.
Three-phase service: Rendered hereunder subject to a monthly surcharge of $2, plus any necessary installation costs.
Billing demand: The maximum 60-minute measured demand in the month as recorded by a suitable meter.

Source: National Electric Rate Book, vol. 2, Federal Power Commission.

WILSON UTILITIES

Available: In Wilson.

[1] Add 50 kilowatt-hours to the 3.5-cent block for each 0.5 kilowatt of demand in excess of 3 kilowatts, but not more than 600 kilowatt-hours.

(265) Residential service, July 1, 1949

Designation: R.
Applicable: To residential customers for all domestic uses. Not applicable to recognized tourist homes, rooming, or boarding houses.
Rate:

6.0 cents per kilowatt-hour, first 35 kilowatt hours.
4.0 cents per kilowatt-hour, next 65[1] kilowatt-hours.
2.5 cents per kilowatt-hour, next 150 kilowatt-hours.
1.2 cents per kilowatt-hour, next 350 kilowatt-hours.
1.0 cent per kilowatt-hour, all additional kilowatt hours.

Minimum bill: $1.20, plus $2.50 for each kilowatt of demand in excess of 3 kilowatts.
Multiple dwelling units: Where more than one house or one housekeeping in an apartment building is served through the same meter, the first four energy blocks and the $1.20 minimum charge will each be multiplied by the number of individual dwelling units served.
Billing demand: The maximum 60-minute measured kilowatt or kilowatt-ampere demand in the month but not less than 60 percent of the billing demand previously established.
Three-phase service: When three-phase service is used, the customer's bill computed from the above rates will be increased by $2.

Source: National Electric Rate Book, vol. 2, Federal Power Commission.

KINSTON LIGHT AND WATER DEPARTMENT

Available: In Kinston.

(159) Residential service, August 1, 1946

Designation: Residential.
Applicable: To residential customers for lighting and appliances.
Rate:

5.0 cents per kilowatt-hour, first 50 kilowatt-hours.
3.0 cents per kilowatt-hour, next 50 kilowatt-hours.
2.0 cents per kilowatt-hour, next 150 kilowatt-hours.
1.5 cents per kilowatt-hour, all over 250 kilowatt-hours.

Surcharge: 10 percent.
Delayed payment: 10 percent added after 10th of month.
Minimum bill: $0.77.

Source: National Electric Rate Book, vol. 2, Federal Power Commission.

CAROLINA POWER & LIGHT CO.

(6) Residential service, February 3, 1939

Designation: R–3.
Available: In Aberdeen, Angier, Ansonville, Asheboro, Asheville, Bailey, Biscoe, Black Mountain, Bladenboro, Candor, Canton, Carthage, Cary, Clinton, Clyde, Coats, Dunn, Ellerbe, Enka, Erwin, Fairmont, Four Oaks, Franklinton, Franklinville, Fuquay Springs, Garner, Goldsboro, Hamlet, Hazelwood, Henderson, Hope Mills, Hot Springs, Jonesboro, Kenly, Liberty, Lilesville, Lillington, Littleton, Maxton, Middlesex, Morven, Mount Gilead, Mount Olive, Nashville, Norlina, Oteen, Oxford, Pembroke, Pine Level, Pittsboro, Polkton, Princeton, Raeford, Raleigh, Ramseur, Robbins, Rockingham, Roseboro, Rowland, Roxboro, Saint Pauls, Sanford, Siler City, South Wadesboro, Southern Pines, Spring Hope, Spruce Pine, Star, Troy, Vass, Wadesboro, Warrenton, Weaverville, Wendell, West End, West Southern Pines, Yanceyville, Youngsville, Zebulon.
Applicable: To residential customers for all domestic uses in private residences and individual family apartments. Motors, ranges, water heaters, or other appliances of more than 2-kilowatt individual capacity must meet the utility's specifications. Also applicable to private dwellings used as tourist

[1] The second block of the rate will be increased 80 kilowatt-hours for each kilowatt of demand in excess of 3 kilowatts, but not by more than 600 kilowatt-hours.

homes and boarding houses not coming within the scope of the statutes for sanitary inspection of hotels, inns, or rooming houses.

Rate:

3.9 cents per kilowatt-hour, first 50 kilowatt-hours.
2.9 cents per kilowatt-hour, next 100 kilowatt-hours.
1.9 cents per kilowatt-hour, next 100 kilowatt-hours.
1.5 cents per kilowatt-hour, all additional kilowatt-hours.

Source: National Electric Rate Book, vol. 2, Federal Power Commission.

REQUIREMENTS UNDER WHEELING CONTRACTS

Senator ELLENDER. I presume that in your contract with them you are agreeing to let them have electricity on condition that they sell it to the customer at a specific rate—or just how do you handle that?

Mr. EARDLEY. It doesn't work quite like that.

Senator ELLENDER. You are not going to bail out those cities, I hope?

Mr. EARDLEY. We recently drafted and approved a standard form of resale article for use in municipalities. We required in that article that (1) they set up a system of bookkeeping according to the Federal Power Commission, so that they know what their costs are and know what they own. A lot of these municipalities do not know what they have; they only know how much cash they have in the bank.

Second, it requires that the operation be kept separate from all other business operations of the city. In other words, they have separate accounts for this money. Their receipts are separately accounted for and just do not go into a general fund.

Third, they are allowed to set up funds for amortizing their indebtedness, equivalent of tax payment to the general funds, equivalent of taxation, and general business expenses like that which are considered prudent in any utility. And over and above that they have to return the money in the way of reduction in rates to the municipal customers.

Now, the end effect of that is that beyond this payment of equivalent to taxes, and the interest equivalent to their investment, if they own their plant outright, paid for it from other investments, why, they can have the equivalent of interest on that money, and a payment in lieu of taxes would go to the general funds. Beyond that point the municipal operations, as you consider them generally, of the city, will not be carried by electric system revenue.

Senator ELLENDER. In other words, your contract will be so drawn as to give to the people of those localities the benefit of this cheap electricity; is that right?

Mr. EARDLEY. We are attempting to carry out the mandates of the law, which say that the power must flow to consumers at the lowest possible cost.

Senator ELLENDER. You speak of preferred customers, and when you say that you mean, of course, not the city government but the people who are living in that city; is that correct?

Mr. EARDLEY. That is correct.

Senator ELLENDER. And your contract is so drawn?

Mr. EARDLEY. That is right.

Senator ELLENDER. How much do you propose to pay to these cities for electricity? Do you have your contract drafted already?

Mr. EARDLEY. We do not have a contract drafted with any one of the cities. We have to be in a position where we can go down and

really talk business and show them what we can do before we can draft contracts. We really have an application for them saying that they want a given amount of power, and that will take an analysis of each one of the operations of the cities before you can really sit down and draft a contract and fill in the blank spaces of what the cost of components are.

First, I stated that in most cases the cities have not kept their plant investments separate. They have to, some way or other, go through a bookkeeping procedure and come up and find out what they really have invested in their plant in order to determine what the real costs are to them to generate power. Then you go from there, and on the basis of that, if they supply us a given component, they would be paid equivalent to X mills per kilowatt-hour, or whatever it was.

Senator HAYDEN. If they had some steam power that they could generate down there that would help you during another period of the day or another period of the year, you would buy it?

Mr. EARDLEY. That is correct.

REVOLVING FUND

Senator ELLENDER. What I want to try to develop here is the extent to which you will use this continuing fund, to accomplish that. The Southwest Power Authority is doing this: They are, in a measure, financing co-ops that pool their resources together and build a huge steam plant. And through this continuing fund, they buy all of their electricity and rent their power lines and amortize it over a period of 40 years. And in that way, to my way of thinking, they are doing indirectly what they cannot do directly.

In other words, if Interior or you were to come here and ask for funds to build steam plants in North Carolina and South Carolina, and other States wherein you have jurisdiction, I think the answer would be a loud "No."

But it seems to be all right for the cooperatives to combine together and go to REA and borrow a few million dollars and put up a big steam plant and then for you to come along and manage it for them. That seems to be all right.

Now, I would like to ask if you contemplate doing anything like that with this continuing fund?

Mr. EARDLEY. Senator, we certainly do not contemplate doing anything like that with the continuing fund. We have had no discussion with REA on it at all.

Senator ELLENDER. Would you object to an amendment, or something put in the bill to that effect, that you will not use that continuing fund under any circumstances to finance any REA projects, such as I have been describing?

Mr. EARDLEY. Well, insofar as I am concerned, I do not see any objection to that kind of language in there, if the committee believes that that safeguard is necessary.

Senator ELLENDER. That is what I thought when we provided for the continuing fund for the SPA. But, as Senator Hayden recalls, it was testified here yesterday the SPA is using that continuing fund in order to buy this electricity and merely to finance.

Mr. EARDLEY. Senator, I would like to point out the difference in the two areas.

In the first place, the area of the Southwestern Power Administration does not have very many steam plants of any particular size or modern design. I mean, the sum total of them adds up, in terms of 10,000 here or 5,000 there.

Senator HAYDEN. You are talking about the REA steam plants?

Mr. EARDLEY. No; I am talking about all kinds of steam plants.

Senator HAYDEN. If so, there are some big plants out there.

Mr. EARDLEY. In the State of Missouri I think there are two 100,000-kilowatt steam plants. A lot of the capacity is made up by relatively small steam plants here, there, and everywhere else, which are relatively, by present-day standards, uneconomic to operate. The owners of those steam plants would shut them down if they could ever get ahead of the increasing load that they have. They have been building, but they have not been able to build fast enough to keep up with the load growth, besides retiring their old plant. I am sure a lot of that will be retired.

Now, in the area down here in the Southeast, there are plenty of large, good steam plants in the area.

Senator HAYDEN. That is, privately owned.

Mr. EARDLEY. Privately owned, by companies, that is right. There is tremendous capacity to firm up this power that we have been talking about. The only question is making the proper arrangements with the companies.

Senator HAYDEN. You do not foresee, in other words, that there would be any necessity for any of the REA's in that area to borrow money from the Rural Electrification Administration to put in steam plants, because the steam is already in the vicinity?

REA COOPERATIVE STEAM PLANTS

Mr. EARDLEY. I was talking about it from all points of view. Now, as far as I know there is only one REA cooperative group that has proposed to build a steam plant, and that was Old Dominion.

Senator ELLENDER. Where?

Mr. EARDLEY. On the James River, in Virginia, probably 50 to 75 miles north of Buggs Island.

CONTRACT NEGOTIATIONS WITH OLD DOMINION COOPERATIVE

In that particular case they wanted to buy peaking capacity, secondary and dumping energy from us, and, in turn, would sell to us the residual output of their steam plant—whatever they had left over and didn't need.

Senator ELLENDER. What position did you take on that?

Mr. EARDLEY. We offered to buy from them the residual they had from their steam plant at the cost per kilowatt-hour.

Senator ELLENDER. How about the lines that connect you with them?

Mr. EARDLEY. We were going to build a line from Buggs Island to the load center—their steam plant. That was the only transmission line we would have any connection with any operation of. They would build and own and operate their own transmission lines and their steam plant.

Senator ELLENDER. What you would really do would be to buy their capacities and sell back to them what they need; is that right?

Mr. EARDLEY. We were not going to go through any kind of paper transaction like that. Do you mean we would take in the whole output of the steam plant?

Senator ELLENDER. Yes.

Mr. EARDLEY. No.

Senator ELLENDER. That is the way it is being handled in the Southwest Power Authority.

Mr. EARDLEY. We were not going to guarantee any particular payment to them and were not going to guarantee their investment in that steam plant or the amount of money they had to pay REA. It was a buy-and-sell proposition on exactly the same terms as the buy-and-sell proposition will be made with Virginia Electric Power Co.

Now, I want to keep the record clear. I do want to point out that Old Dominion is appealing the decision of the Virginia Public Service Commission not to let them issue securites in order to go through with that plan. We were going to sell power to them and we were going to buy anything they had left. We were going to have nothing to do with their transmission system or the operation of that steam plant. It would be just the same as if it were the Virginia Electric Power Co.'s system.

Senator HAYDEN. I see no harm in an arrangement like that because it would be identical to that that you would make with private power companies.

Mr. EARDLEY. Identical with the ones made with private companies.

Now, we went one step further. We offered to use their transmission system to wheel power to municipalities for 1 mill per kilowatt-hour, the same sort of offer we made to Virginia Electric Power Co. We would have nothing to do with the REA's distribution co-ops, but if the municipal customer came along, a town came along and said, "We want power from you, and here is Old Dominion's transmission system," the same as they would say "Here is Virginia Electric Power Co.'s transmission system," we would say "All right, we will make the arrangement to use their facilities and give the power to you and pay a mill a kilowatt-hour." That was in the arrangement. It is the same think that we are trying to work out with the Virginia Electric Power Co., and nothing more.

Senator HAYDEN. I see that it is about time to recess.

Mr. EARDLEY. I would just like to say that I am very happy to substitute in a small way for Ben Creim. He is an old friend of mine from REA days. He was my boss and regional engineer and field engineer and he is making splendid progress, and I hope that before too long he will be able to satisfactorily assume his duties.

Senator HAYDEN. Very well. We will recess at this time until 10 o'clock tomorrow morning.

Thank you, gentlemen.

(Whereupon, at 5 p. m., Tuesday, May 22, 1951, the hearing was recessed, to be reconvened at 10 a. m., Wednesday, May 23, 1951.)